MultiModem® iSMS

Intelligent SMS Server

Models: SF 100-G

SF 400-G

SF 800-G

Administrator's Guide

MultiModem® iSMS
Administrator's Guide
Models: SF 100, SF 400, SF 800
Part Number S000461C

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Revision	Date	Description
A	08/21/09	Initial release of SF 400 and 800.
B	09/02/10	Release of 1.44 version.
C	01/30/2012	Removed references to product CD

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support.multitech.com

In order to better serve our customers, manage support requests and shorten resolution times, we have created the online web portal allowing you to submit questions regarding Multi-Tech products directly to our technical support team. Get answers to your most complex questions, ranging from implementation, troubleshooting, product configuration, firmware upgrades and much more.
To create an account and submit a Support Case on the Portal, visit support.multitech.com

Knowledge Base and Support Services

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The Knowledge Base provides immediate answers to your questions and gives you access to support resolutions for all Multi-Tech products. Visit our support area on the website for other support services.

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Warranty

Warranty and repair information for your product can be found at:
http://www.multitech.com/en_US/COMPANY/Policies/warranty/

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Chapter 1 – Product Overview and Safety Information

The Multi-Tech iSMS is an intelligent Short Message Services (SMS) server that gives businesses the ability to broadcast and receive SMS text messages. The ready-to-use solution plugs into the Ethernet network and connects to the wireless network through an integrated quad-band GSM modem. Now anyone on the network can broadcast messages, which allows organizations to reach clients, subscribers, members and prospects in real-time through SMS.

Safety Warnings

Ethernet Port Caution

The Ethernet port is **not** designed to be connected to a Public Switched Telecommunication Network (PSTN).

Handling Precautions

All devices must be handled with certain precautions to avoid damage due to the accumulation of static charge. Although input protection circuitry has been incorporated into the devices to minimize the effect of this static build up, proper precautions should be taken to avoid exposure to electrostatic discharge during handling and mounting.

Before servicing any part of the MultiModem iSMS system, read the instructions and cautions in this section. This information explains how to work safely when servicing product. Observe the following safety precautions when setting up the equipment:

- Follow all cautions, warnings, and instructions.
- Ensure that the voltages and frequency rating of the power receptacle match the electrical rating label on the equipment.
- Never push or attach objects of any kind through openings inside the equipment. Object may touch dangerous voltage points or short components, resulting in fire or electric shock.

Caution: Maintain a separation distance of at least 20 cm (8 inches) between the transmitter's antenna and the body of the user or nearby persons. The modem is not designed for, nor intended to be, used in applications within 20 cm (8 inches) of the body of the user.

Packaging Contents

The following items are included in the package for the MultiModem iSMS product.

- One MultiModem iSMS
- For model SF100, a power supply (**SF 100**) *-or-*
- For models SF400 and SF800, a power cord
- RJ-45 Ethernet cable
- Cellular antenna (not included with all models)

If any item is missing or damaged, contact Multi-Tech Systems, Inc.

MultiModem iSMS Documentation

User Guides

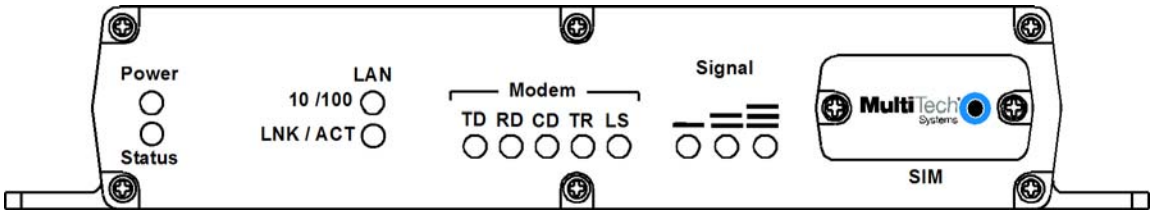
All product documentation is available on the Multi-Tech website: http://www.multitech.com/man.go

AT Commands

The AT commands used to configure this product are described in a reference guide. You can find this guide, "GPRS AT Commands Reference Guide" on the Multi-Tech website.

Front and Back Panels

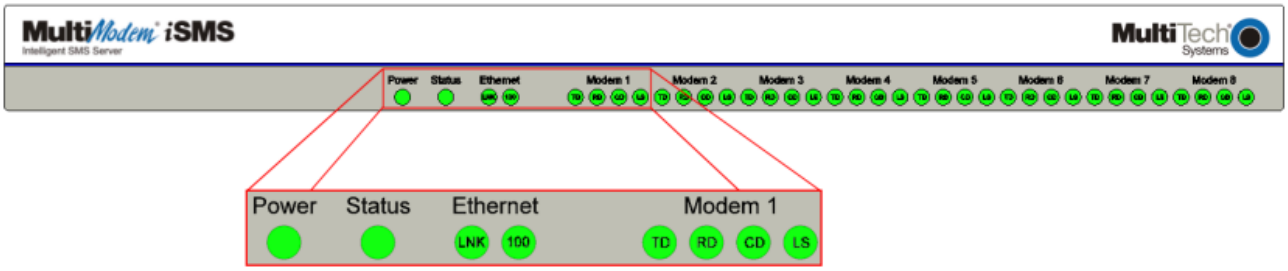
Front Panel of model SF 100



Front Panel LEDs of Model SF 100

LED	Description
Power	Lights when power is being supplied to the MultiModem iSMS.
Status	When functioning normally, the LED blinks. The LED is a solid light when the unit is booting up, saving the configuration, restarting, or updating the firmware.
LAN 10/100	Lights when a successful connection to the 100BaseT LAN is established. Off when connected at 10BaseT.
LAN LNK / ACT	Lights when the LAN port has a valid Ethernet connection. Blinks when it is receiving or transmitting data.
Modem	**TD** **TRANSMIT DATA.** This LED blinks when the modem is transmitting data to your wireless carrier. **RD** **RECEIVE DATA.** This LED blinks when the modem is receiving data from your wireless carrier. **CD** **CARRIER DETECT.** This LED lights when the modem detects a valid carrier signal from a wireless carrier. **TR** **(DATA) TERMINAL READY.** This LED lights when the modem is trying to establish a wireless connection. **LS** **LINK STATUS.** This LED flashes once every 3 seconds when network registration is successful. This LED is on constant if the network registration is invalid, if a network signal is not detected or if a SIM card is not installed in the modem.
Signal	Indicates the wireless signal strength. See the Signal Strength section in this chapter.
SIM	Location of the SIM card.

Front Panel of Models SF 400 and SF 800



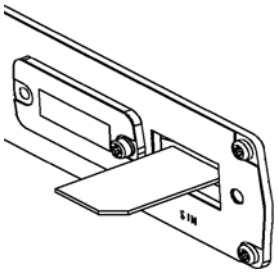
Front Panel LEDs of Models SF 400 and SF 800

LED	Description
Power	Lights when power is being supplied to the MultiModem iSMS.
Status	When functioning normally, the LED blinks. The LED is a solid light when the MultiModem iSMS is booting up, saving the configuration, restarting, or updating the firmware.
Ethernet 100	Lights when a successful connection to the 100BaseT LAN is established. Off when connected at 10BaseT.
Ethernet LNK	Lights when the LAN port has a valid Ethernet connection. Blinks when it is receiving or transmitting data.
Modem *n*	**TD** **TRANSMIT DATA.** This LED blinks when the modem is transmitting data to your wireless carrier. **RD** **RECEIVE DATA.** This LED blinks when the modem is receiving data from your wireless carrier. **CD** **CARRIER DETECT.** This LED lights when the modem detects a valid carrier signal from a wireless carrier. **LS** **LINK STATUS.** This LED flashes once every 3 seconds when network registration is successful. This LED is on constant if the network registration is invalid, if a network signal is not detected or if a SIM card is not installed in the modem.

Installing a SIM Card for Model SF 100

A SIM (Subscriber Identity Module) card is required in order for the MultiModem iSMS to operate on a GPRS network. To install the SIM card:

1. Remove power from the unit.
2. Use a small screwdriver to remove the screw closest to the outside edge of the MultiModem iSMS. Then swing the SIM slot cover up and over to the left.
3. Insert the SIM card into the SIM card slot. The following graphic shows a partial front panel illustrating the correct SIM card orientation.



4. Swing the cover back to its original placement and replace the screw.
5. Reattach the power supply.

Installing a SIM Card for Models SF 400 and SF 800

SIM (Subscriber Identity Module) cards are required for the MultiModem iSMS to operate on a GPRS network. This section describes how to install the SIM card.

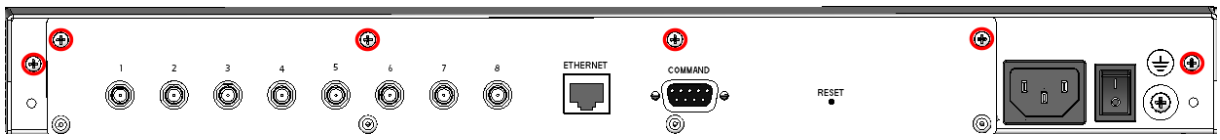
Before You Begin

Perform the procedure that follows—removal of chassis cover—only at an ESD workstation using an antistatic wrist strap. If such a station is not available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal ground screw (lug) next to power switch of MultiModem iSMS chassis.

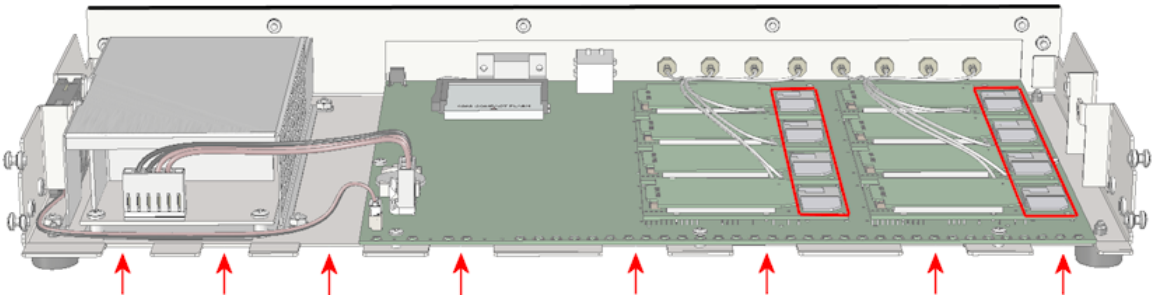
1. Power off the unit and unplug the power cord.
2. Do not remove protective power supply cover. Harmful voltages may be exposed if cover is removed, and can lead to electrical shock and or death.

Electrostatic discharge (ESD) is the release of stored static electricity that can damage electrical circuitry or components. Static electricity is often stored in your body, and discharged when you contact an object of a different potential.

3. Use a small screwdriver to remove the six (6) screws on the back of the MultiModem iSMS. The figure that follows uses red circles to indicate the location of these screws.
4. Lift the top cover from the back of the unit and then slide towards the front to remove.



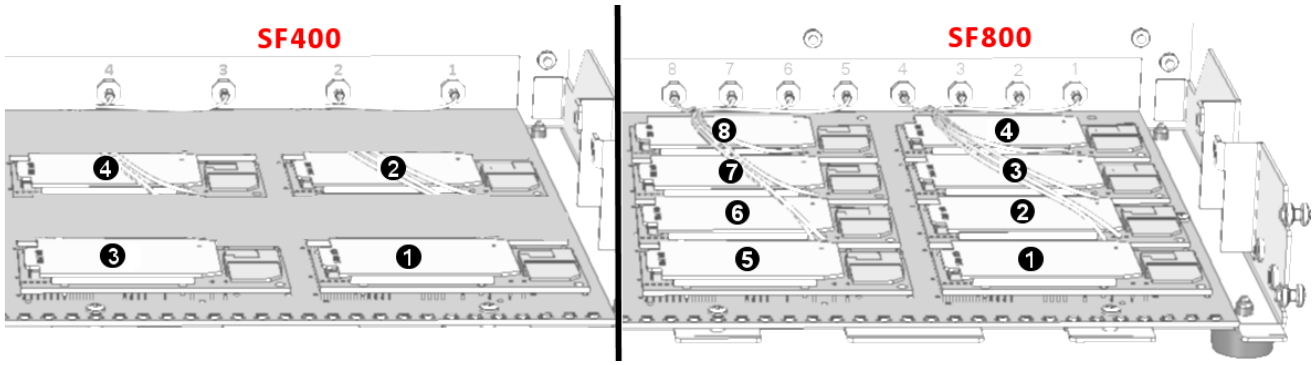
5. Insert the SIM cards into the SIM card slots on the internal wireless modems. Each modem has a graphic line depicting the correct SIM card orientation.
6. The figure that follows uses two red boxes to indicate the location of these receptacles. Note that the SF 800 model is used in the figure.



7. To re-attach the cover, tilt the cover up and align the “teeth” with the gaps between those on the bottom of the chassis. The illustration uses red arrows to indicates the locations to align.
8. Rotate the cover down and push it toward the rear of the unit until it is flush.
9. Insert the six (6) screws back in to the unit and tighten.

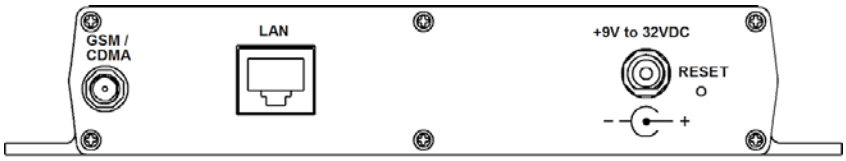
Modem Numbering

In the Web interface, the modem tabs correspond to internal modems and use the numbering scheme shown in the illustration that follows. The row of LEDs shows where the front of the unit is. Disable unpopulated modems as described in Network Setup.

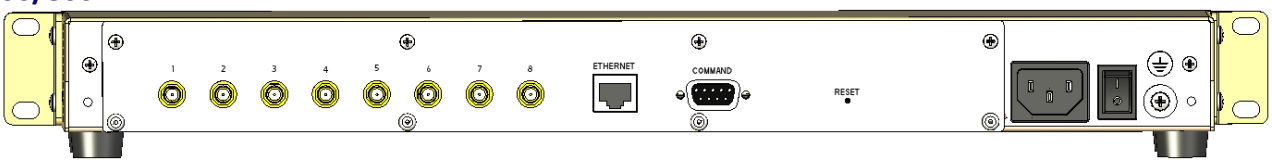


Back Panels

SF 100



SF 400/800

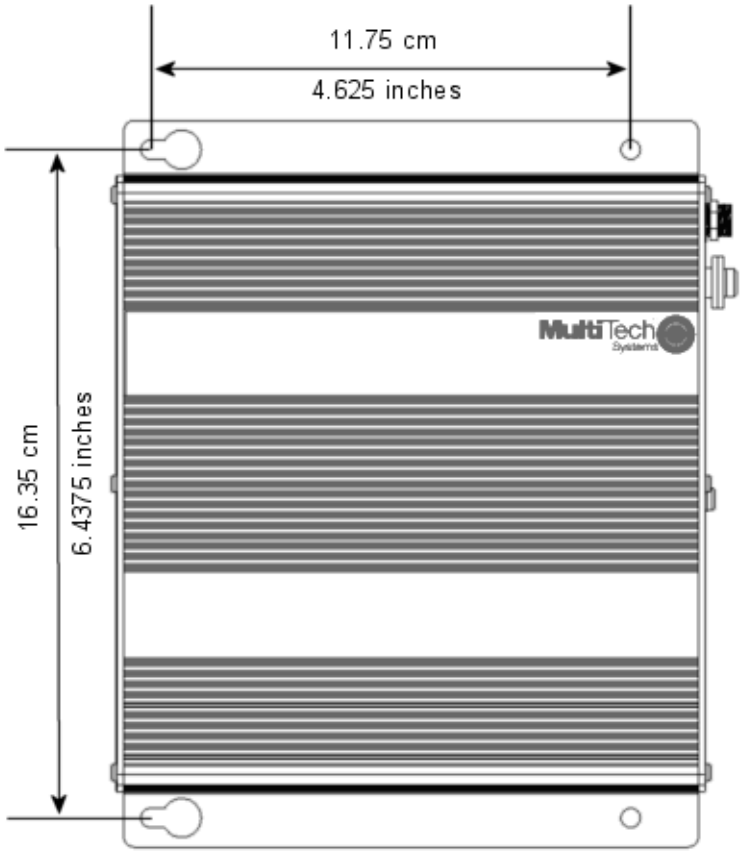


Back Panel Connectors

Connector	**Description**
GSM Antenna Connector (s): 1 for the SF 100; 1 – 4 for the SF 400; 1 – 8 for the SF 800	SMA (female) antenna connector for a cellular antenna. **Note:** One antenna must be attached for each internal modem in order for them to be operational.
Ethernet (LAN for the SF 100)	The LAN (SF 100) / Ethernet (SF 400/800) port connects the MultiModem iSMS to your Ethernet network-connected PC.
+9V to 32VDC	**[SF 100 only]** The SF 100 power source can range from 9 volts to 32VDC.
Power Receptacle	**[SF 400/800 only]** Connection for standard power cord (provided).
COMMAND	**[SF 400/800 only]** A DE9 port for direct command access to the SF 400/800.
Reset .	The Reset button resets the unit to factory settings, which includes deleting any existing Address Book entries, SMS User account entries and any sent or received SMS history. This Reset is the same as performing the "MultiModem iSMS Factory Defaults" option found in the Administration menu. Press and hold the Reset button until the Status LED turns off, and then release it. Do not press this button unless you want to restore all settings

Panel Mounting (SF 100)

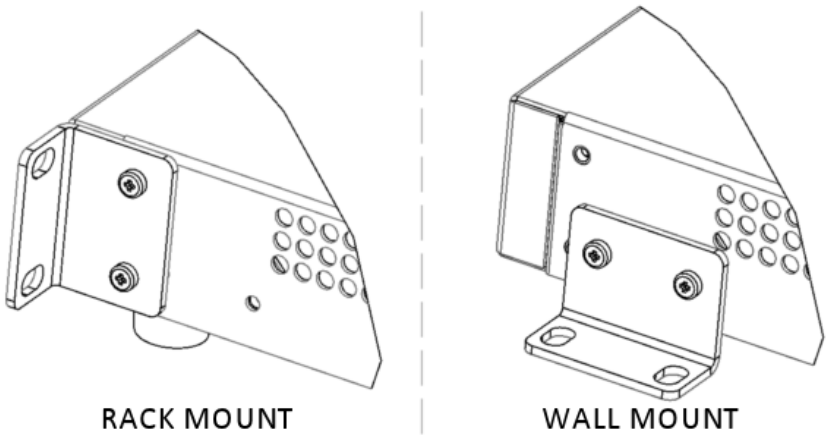
You can mount the SF 100 model using screws spaced according to the measurement shown in the illustration that follows.



Note: Use either #6 or #8 pan head screws for all four mount locations.

Rack or Wall Mounting (SF 400/800)

The MultiModem SF 400/800 units can be rack (or wall) mounted with screws using the mounting brackets.



Rack Mounting

Ensure proper installation of the unit in a closed or multi-unit enclosure by following the recommended installation as defined by the enclosure manufacturer. Do not place the unit directly on top of other equipment or place other equipment directly on top of the unit. If installing the unit in a closed or multi-unit enclosure, ensure adequate airflow within the rack so that the maximum recommended ambient temperature (50° C) is not exceeded. Ensure that the unit is properly connected to earth ground by verifying that it is reliably grounded when mounted within a rack. If a power strip is used, ensure that the power strip provides adequate grounding of the attached apparatus.

When mounting the equipment in the rack, make sure mechanical loading is even to avoid a hazardous condition. The rack used must safely support the combined weight of all the equipment it supports.

Ensure that the mains supply circuit is capable of handling the load of the equipment. See the power label on the equipment for load requirements.

Ensure that only properly qualified service personnel install this equipment. Only connect like circuits - connect SELV (Secondary Extra Low Voltage) circuits to SELV circuits and TN (Telecommunications Network) circuits to TN circuits.

Note: The ambient temperature of the rack interior must not exceed 50° Celsius.

19-Inch Rack Enclosure Mounting Procedure

Two people may need to work together to attach the MultiModem iSMS to the rail of an EIA 19-inch rack. These people must attach the brackets to the MultiModem iSMS chassis with the screws provided, as shown in the figure above, and then secure unit to rack rails by the brackets.

Because equipment racks vary, screws for rack-rail mounting are not provided. Follow the instructions of the rack manufacturer and use screws that fit.

1. Position the right rack-mounting bracket on the MultiModem iSMS using the two vertical mounting screw holes.
2. Secure the bracket to the MultiModem iSMS using the two screws provided.
3. Position the left rack-mounting bracket on the MultiModem iSMS using the two vertical mounting screw holes.
4. Secure the bracket to the MultiModem iSMS using the two screws provided.
5. Remove feet (4) from the MultiModem iSMS unit.
6. Mount the MultiModem iSMS in the rack enclosure per the rack manufacture's mounting procedure.

Technical Specifications

Specifications	SF 100	SF 400/800
Hardware Interfaces	**Network:** 1 Ethernet 10/100BaseT	**Network:** 1 Ethernet 10/100BaseT **Console:** 1 serial RS-232
Wireless Modems	**1 Quad Band GSM** 850/900/1800/1900 MHz	**4 or 8 Quad Band GSM** 850/900/1800/1900 MHz
Dimensions	6.4" w x 1.2" h x 6" d (16.3 cm x 3.0 cm x 15.2 cm)	17.4" w x 1.75" h x 8.5" d (44.2 cm x 4.5 cm x 21.6 cm)
Weight	1.25 lbs. (.56 kg)	**SF 400:** 7.75 lbs. (3.52 kg) **SF 800:** 8.00 lbs. (3.64 kg)
Operating Temperature	+32° to +120° F (0° to +50° C) Note: UL listed @ +40° C (limited by power supply)	+32° to +120° F (0° to +50° C)
Humidity	20–90% non-condensing	20–90% non-condensing
Hardware Connectors	**SIM connector:** Standard 3V **Antenna:** RF 50 ohm SMA (female) **Network:** RJ-45 (female)	**SIM connector:** Standard 3V **Antenna:** RF 50 ohm SMA (female) **Network:** RJ-45 (female) **Console:** DE9 (female)
Power*	**External power supply** **Input:** 100-240Vac, 0.5A 50-60 Hz **Output:** 9VDC, 1.7A **Power consumption** Maximum consumption is 0.95A at 9V Input 9v: Typical / Maximum / Peak Current (A): 0.564 / 0.712 / 1.600 Watts: 5.0 / 6.2 Input 20v: Typical / Maximum / Peak Current (A): 0.276 / 0.330 / 0.700 Watts: 5.5 / 6.6 Input 32v: Typical / Maximum / Peak Current (A): 0.191 / 0.225 / 0.625 Watts: 6.1 / 7.2	**Power supply – (universal input)** **Input:** 100-240Vac, 1.8 – 1.0 A 50/60 Hz **SF400 / SF800:** Input 120Vac: Typical / Maximum Current (Amps): 0.078/0.126 / 0.105/0.150 Watts: 9.20/15.04 / 12.44/17.94 Input 220Vac: Typical / Maximum Current (Amps): 0.068/0.124 / 0.085/0.140 Watts: 14.96/27.30 / 18.73/30.84
Certifications and Approvals	**CE Mark; R&TTE** **EMC compliance:** FCC Part 15 Class A; EN 55022 Class A; EN 55024; ACIF S042.1; ACIF S042.3 **Radio compliance:** FCC Part 22, 24 EN 301 489-1; EN 301489-7; EN 301 511	**CE Mark; R&TTE** **EMC compliance:** FCC Part 15 Class A; EN 55022 Class A; EN 55024; ACIF S042.1; ACIF S042.3 **Radio compliance:** FCC Part 22, 24 EN 301 489-1; EN 301489-7; EN 301 511

	RSS 132, 133, 102 **Safety:** cUL 60950-1; UL 60950-1; IEC 60950-1; AS/NZS 60950 **Network compliance:** PTCRB, GCF	RSS 132, 133, 102 **Safety:** cUL 60950-1; UL 60950-1; IEC 60950-1; AS/NZS 60950 **Network compliance:** PTCRB, GCF
Warranty	2 years	2 years

* Multi-Tech Systems, Inc. recommends that the customer incorporate a 10% buffer into their power source when determining product load.

Chapter 2 – Setting up and using the iSMS

Setting Up Your MultiModem iSMS

New MultiModem iSMS units are preconfigured with an IP address of 192.168.2.1 and a 24 bit subnet mask (255.255.255.000).

Before connecting your new MultiModem iSMS to your network and powering it up, identify the existing IP network numbering scheme of the target network. If the target network already implements a *192.168.2.xxx* class C network, the unit's host IP address of 192.168.2.1 may conflict with an existing computer or device on the network. Additionally, advanced network configurations may block IP packets not of the current scheme. For example, if the current network configuration is *10.1.x.x/16*, any IP packets not of this subnet are blocked.

If either is the case, temporarily isolate a workstation and the new MultiModem iSMS from the target network. Connect the Ethernet interface of the workstation directly to the Ethernet interface of the MultiModem iSMS. After configuring the MultiModem iSMS with appropriate IP network parameters (IP address, subnet mask, default gateway and DNS), you can connect the MultiModem iSMS to the target network.

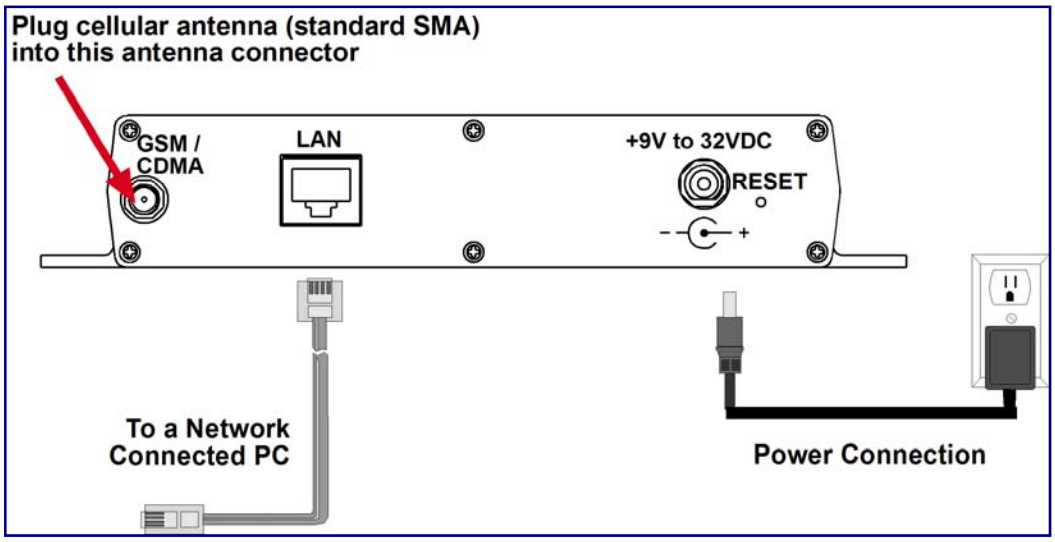
Note: Be sure to perform a "Save to Flash" before powering off the unit, if you are physically moving the unit to a new location.

The MultiModem iSMS LAN connection is a full duplex, auto negotiating 10/100 MHz, auto polarity sensing Ethernet interface. You can use a traditional straight through RJ-45 Ethernet cable or a cross-over RJ-45 Ethernet cable when connecting to an Ethernet port on a hub or switch or when connecting directly to the Ethernet interface of a workstation. The LAN connection of the MultiModem iSMS does not support POE (Power over Ethernet) or 1GHz. These features may need to be disabled on the equipment/port that the MultiModem iSMS is connected to.

You must cable and then configure your device:

- Basic cabling and TCP/IP directions are included in this chapter.
- Chapter 3 describes basic configurations.
- Chapter 4 describes advanced configurations.

SF 100 Cabling



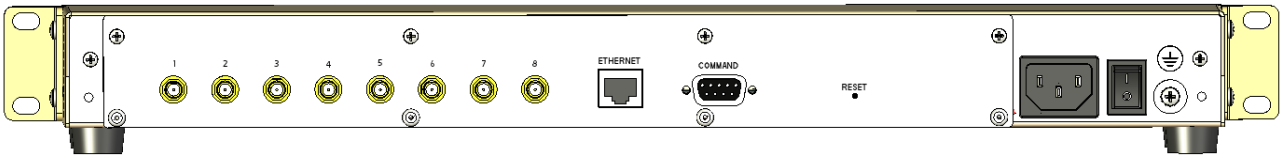
1. Plug one end of a RJ-45 cable into the LAN port on the MultiModem iSMS and the other end into your network or workstation interface.
2. Attach the cellular antenna.
3. Connect the provided power supply cable to the 9 volt power port on the back of the MultiModem iSMS, and plug the other end into an AC power outlet.

   About 30 seconds after you apply power, the unit's front panel Status and LAN LEDs report normally. For more information about the LEDs, see Chapter 1.

Antenna Notes:

- Be sure to locate this appliance where there is wireless coverage.
- The antenna must be attached for the MultiModem iSMS to operate.
- Maintain a separation distance of at least 20 cm (8 inches) between the transmitter's antennas and the body of the user or nearby persons. The product is not designed for, nor intended to be, used in applications within 20 cm (8 inches) of the body of the user.

SF 400/800 Cabling



1. Plug one end of a RJ-45 cable into the LAN port on the MultiModem iSMS and the other end into your network or workstation interface.
2. Attach the cellular antennas.
3. Connect the provided power supply cable to the 9 volt power port on the back of the MultiModem iSMS, and plug the other end into an AC power outlet. The unit's front panel Status and LAN LEDs report normally approximately 30 seconds after power is applied. Refer to Chapter 1, Front Panel LEDs.

Antenna Notes:

- Be sure to locate this appliance where there is wireless coverage.
- The antenna must be attached in order for the MultiModem iSMS to be operational.
- Maintain a separation distance of at least 20 cm (8 inches) between the transmitter's antennas and the body of the user or nearby persons. The product is not designed for, nor intended to be, used in applications within 20 cm (8 inches) of the body of the user.

Establishing TCP/IP Communication

Use an IP enabled workstation with an Internet browser to setup and manage the MultiModem iSMS.

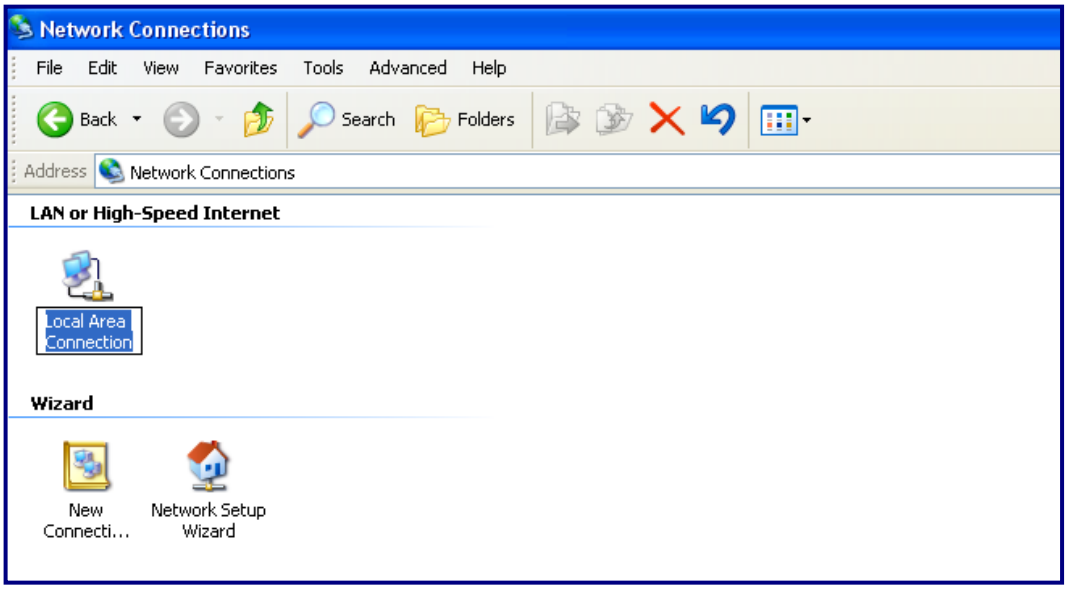
Your workstation needs to be configured with a 192.168.2.**x** IP address and subnet mask of 255.255.255.000, to be able to communicate with a new (or factory defaulted) MultiModem iSMS (where **x** is **not** the number 0, 1, or 255, nor any other host number that may already be in use by another computer or device on the *192.168.2.x* subnet).

Note: When configuring your workstation with a 192.168.2.x IP address (either as an alias address or as the primary fixed address) and when the workstation is not separated by a router or firewall from the MultiModem iSMS (that is, the units are on the same local network), the workstation does not need to be configured with a default gateway address (default route).

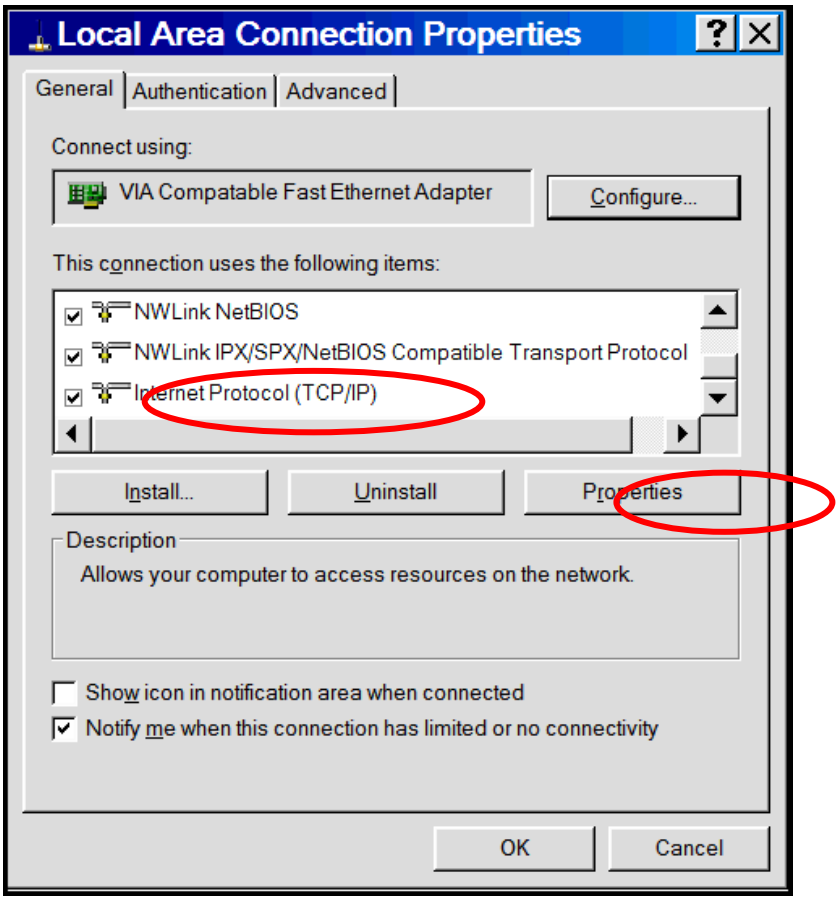
This section describes how to setup a Windows XP workstation so it can communicate with the MultiModem iSMS.

Setting a Fixed IP Address

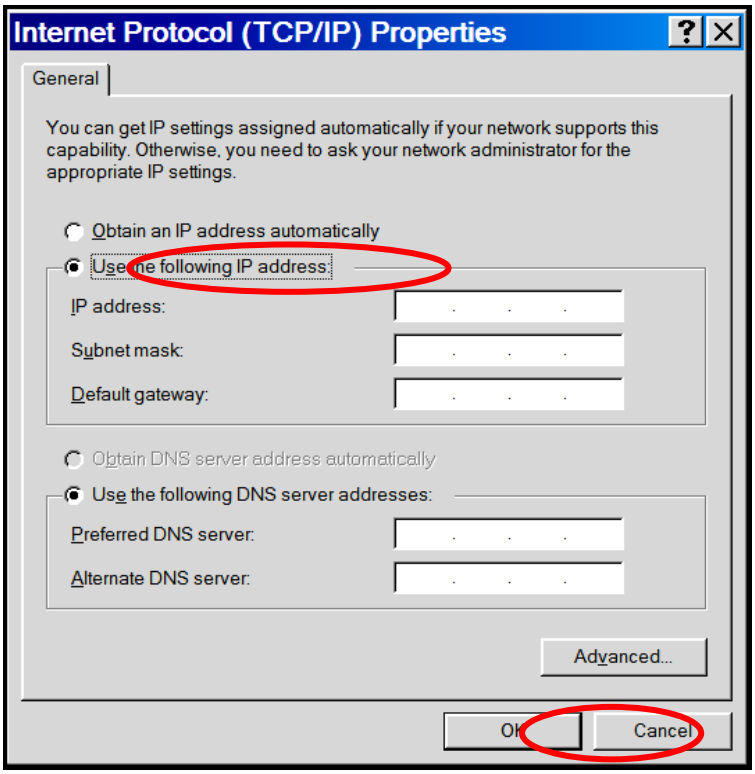
1. Make the MultiModem iSMS connections.
2. From the **Start** menu, select **Settings** then **Control Panel**.
3. In the control panel, double-click **Network Connections**. The Network Connections window opens. .
4. Right click the **Local Area Connection** icon and select **Properties** from the drop down list.



5. The Local Area Connection Properties dialog box opens.



6. Select **Internet Protocol (TCP/IP)**.
7. Click **Properties**. The Internet Protocol (TCP/IP) Properties dialog box opens.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

Note: If this window opens and displays your current IP configuration, record this information. This information can help you restore the workstation's original settings after you finish configuring the MultiModem iSMS is configured.

8. To set a Fixed IP Address for the workstation, use the following IP address.

   a. Enter the workstation IP Address. Example: 192.168.2.x.

   Note: The **x** in the address cannot be the number 0, 1, 255 or any number already in use by a computer or device on this network.

9. Enter the workstation Subnet Mask 255.255.255.0

10. Enter the workstation Default Gateway. This can be left blank when the MultiModem iSMS is on the same network and subnet.

    Note: The workstation settings must be in the same subnet range as the MultiModem iSMS.

The factory default settings for the MultiModem iSMS are:

IP Address: 192.168.2.1

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.2.2

11. Use the following DNS server addresses.

    a. For initial communication with the MultiModem iSMS, DNS information is not needed. These settings can be left as is.

12. Click **OK**.

13. To close the **Local Area Properties** window, click **OK**.

14. Close the Control Panel.

Obtaining and Activating a Wireless Account

Before you can use the cellular feature:

- Obtain a GSM wireless account with an activated SIM card capable of sending SMS text messages through your service provider.
- Install the SIM into the MultiModem iSMS.
- Activate your account. For further information, find the wireless activation notice on the Multi-Tech website. Follow the directions on the website to complete the activation of your account.

Service Provider Fees

Your service provider charges you for data usage. Your provider can tell you what these fees are.

You can use your MultiModem iSMS to send a large number of SMS messages very quickly. As such, have a contract that accounts for the numbers of messages you are likely to send. Multi-Tech is not responsible for any charges relating to your cellular bill.

Directly Communicating with the Cellular Modem

You may want to communicate directly to the cellular modem to verify network registration, and to troubleshoot your connection. To do this, open a Telnet connection to the MultiModem iSMS, specifying port 5000.

This provides AT command line access to the first GPRS modem in the MultiModem iSMS.

To determine cellular connection status, use the AT commands. For more information about these commands, see the GPRS AT Commands Reference Guide.

Note: If your SIM card is locked, you cannot send SMS messages.

Signal Strength

Signal Strength Command

To View Strength

For the SF 400/800 models without signal LEDs, signal strength can be determined by using the following AT command: **AT+CSQ**. This command is the default setting on the *Network Setup > Cellular Modem* window. This works for the SF 100 as well.

AT Command Response Example

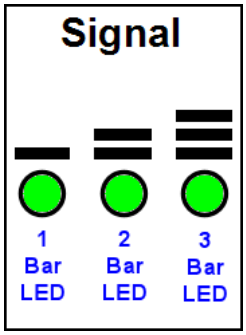
+CSQ: xx (For *xx*, see the values chart below)

Signal Strength Reference Table

The following table lists the meaning of the **xx** values in the signal strength response and explains how they correspond to the number of LEDs lit for signal strength.

AT+CSQ Values	Signal Strength	SF 100 Signal LED Bars
0 to 6	Very weak signal	No LEDs lit
7 to 14	Weak signal	1 Bar LED is lit
15 to 23	Stronger signal	1 Bar and 2 Bar LEDs are lit
24 to 31	Strongest signal	1 Bar, 2 Bar, 3 Bar LEDs are lit
99	Signal not detectable	No LEDs lit

SF 100 Signal Strength LEDs



Using AT Commands to Check Network Registration and Roaming Status

Use this command to verify that the cellular modem has been registered on a wireless network.

1. In the command window, type **AT+CREG?**
2. The modem responds in one of the following ways:

Network Registration Verification	
Value	**Network Registration Status**
+CREG: 0,0	The modem is not registered on any network
+CREG: 0,1	The modem is registered on the home network
+CREG: 0,5	The modem is registered on a network and it is roaming

Note: If the modem indicates that it is not registered, verify the signal strength to determine if the problem is the strength of the received signal.

Chapter 3 – iSMS Basics and the Setup Wizard

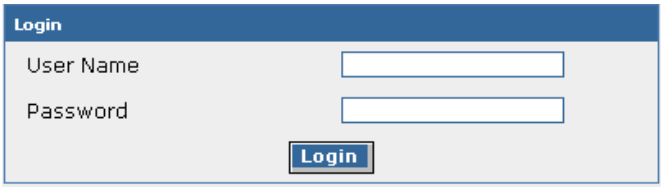
Starting the iSMS

Open a Web Browser

1. Be sure that the MultiModem iSMS is cabled and that the power is connected as shown in Chapter 2.
2. Then open a Web browser.
3. Type the IP address of your MultiModem iSMS in the address/location area of your browser: *http://192.168.2.1*
4. Press **Enter**.

Login

The Login window for the MultiModem iSMS Web Interface displays. The appearance of the Login window proves that a TCP/IP communication path (network connection) has been established between your workstation's browser and the MultiModem iSMS SMS Server.



1. Type **admin** (*admin* is the default user name) in the user name box.
2. Type **admin** (*admin* is the default password)in the password box.
3. Click **Login**.

Note: The **User Name** and **Password** entries are case-sensitive (both must be typed in lower-case). The password can be up to 12 characters. Later, you change the password from the default (**admin**) to something else. If Windows displays the **AutoComplete** window, you may want to click **No** to tell the browser to **not** remember the password for security reasons.

Password Caution: Use a safe password! Your first name spelled backwards is not a sufficiently safe password; a password such as *xfT35$4* is better. It is recommended that you change the default password. Create your own password.

Web Interface Opens

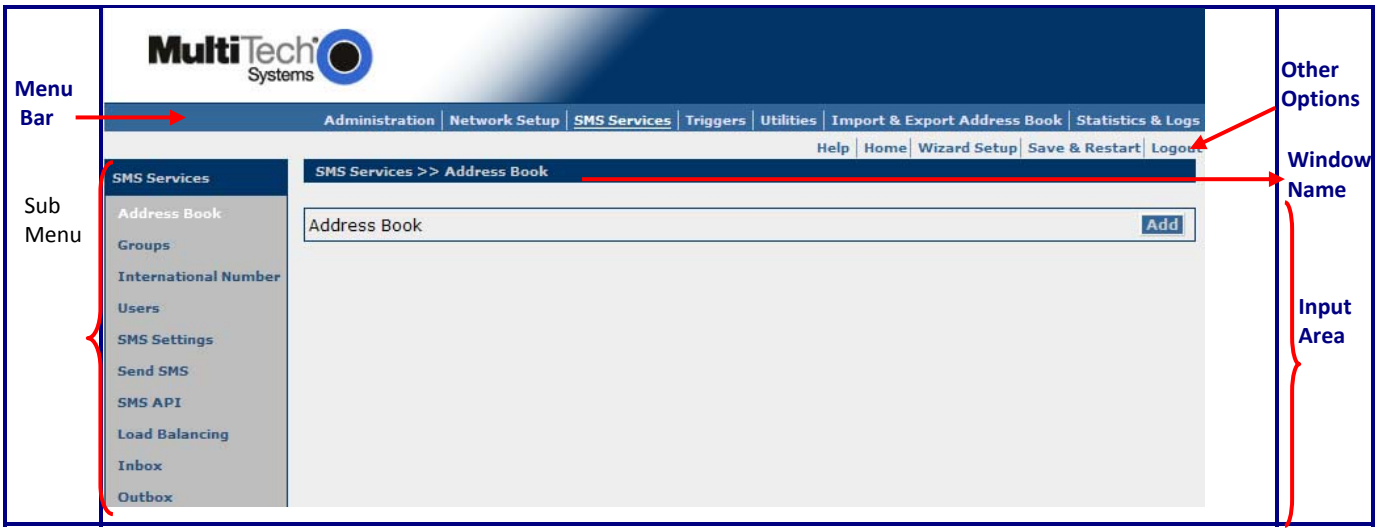
This is the Home window of the Web management interface from which you can access all setup functions.

Note: Only the top portion of the Home window is shown here.

MultiTech Systems
Administration | Network Setup | SMS Services | Triggers | Utilities | Import & Export Address Book | Statistics & Logs
Help | Home | Wizard Setup | Save & Restart | Logout
>> Home Page
Home Page

Navigating the Windows

Before using the Web Interface, you may find the following information about navigating through the windows and the structuring of the menus helpful.



Menus

Each Menu bar selection has its own sub-menu, which displays on the left side of the window.

When you click one of the Main Menu choices, the first window listed in the sub-menu displays. Choose other sub-menu options/windows by clicking on its name. The following is an example of the **Administration** sub-menu.

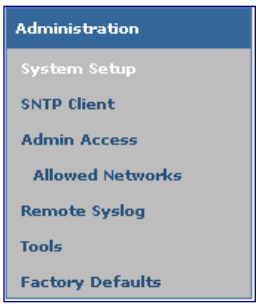


Table of Menus and Sub-Menus

Administration
System Setup – Set up the SMTP server for e-mail notifications, the names of individuals who receive notifications, and the email ID for the notifications FROM line. **SNTP Client** – Set up the synchronization of the MultiModem iSMS clock to real time. **Admin Access** – Set up the administrator's password and set an automatic inactivity disconnection interval. **Allowed Networks** – Set the networks to be allowed access to the MultiModem iSMS unit. **Remote Syslog** – Configure the Remote Syslog status and server's IP. The default is *Disabled*. **Tools** – Reset the cellular modem, Cancel pending Send jobs. **Factory Defaults** – Reset all parameters to the original factory defaults.
Network Setup
IP Settings – Specify your LAN settings. **Cellular Modem** – Configure the cellular modem, and TCP access to the modem.
SMS Services
Address Book – Manually input names and phone numbers into the phone book. **Groups** – Create groups of names with their phone numbers. **International Number** – Enable or disable international numbers. **Users** – Set up users and their passwords. **SMS Settings** – Define default encoding type and periodic network re-registration. **Send SMS** – Send SMS messages by manually entering the message or using a message from the Preconfigured SMS list. **SMS API** – This page is divided into two sections: Send API and Receive API. **Load Balancing** – Configure multiple units to share traffic load. **Inbox** – View messages received. **Outbox** – View messages sent.
Triggers
Authentic List – A list of cellular phone numbers (mobile endpoints), derived from the address book, that are allowed to trigger a broadcast. **Broadcast Triggers** – Configure trigger (codes or words) and broadcast messages. **Action Triggers** – Create the triggers (codes or words) that dynamically configures (manages) certain databases via SMS. **Pre-Configured SMS** – Write and save pre-configured messages.
Utilities
Backup – Save MultiModem iSMS settings to a backup file. **Firmware Upgrade** – Get Web Management firmware upgrade files from Multi-Tech Systems, Inc.
Import & Export Address Book
Import Address Book – Import a CSV formatted address book that you want to use to set up your MultiModem iSMS. **Export Address Book** – Export the contents of the MultiModem iSMS Address Book into a CSV formatted file.
Statistics & Logs
System Information – View product model number, firmware version, MAC Address, number of Address Book entries and live system details. **SMS Statistics** – View **SMS Statistics**: Signal strength, number of messages in the inbox, number of message in the outbox, and number of messages sent. View **Triggers Statistics**: Number of broadcast triggers received, number of action triggers received, and number of broadcast triggers configured. **Load Balancing Statistics** – View statistics for the unit if load balancing is used. **Log Traces** – View **SMS Logs**: SMS Sent Log, SMS Received Log, SMS Failure Log, SMS Live Log. View **Sent API Logs**: Send API Status Log, Send API Failure Log, Send HTTP API Live Log, Send TCP API Live Log. View **Receive API Logs**: Receive API Live Log and Receive API Failure Log.

View **Load Balance Logs**

View **System Logs**: A log of all Web access attempts.

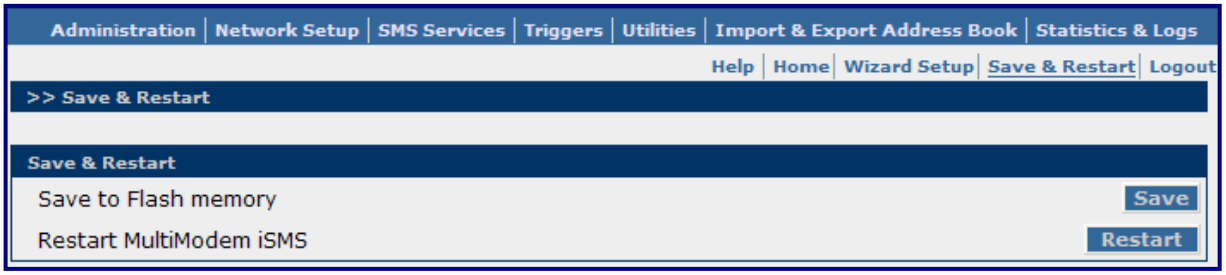
Saving System Configuration Changes

There are two types of save functions within the WEB Management menu system.

The first is a 'per feature' (per menu) save button. Most changes made per menu take effect immediately when you use this save function. However, some changes require a system restart. These are found individually in the Sub Menu input areas.

The second type is a system wide save function called "Save to Flash". Non default parameters, that is, parameter changes specific to your needs, are lost when the system restarts if you have not saved your changes to flash memory. After you set up the MultiModem iSMS system, make sure your selections are permanently saved.

Save & Restart Button under Menu Bar


Administration | Network Setup | SMS Services | Triggers | Utilities | Import & Export Address Book | Statistics & Logs
Help | Home | Wizard Setup | Save & Restart | Logout
>> Save & Restart
Save & Restart
Save to Flash memory
Save
Restart MultiModem iSMS
Restart

Save to Flash Memory

This is a system wide save function.

Upon system start up, system parameters are taken the unit's Flash Memory. After configuring the unit to meet your needs, perform the "Save to Flash" function before you restart the unit.

Additionally, your changes to the Address Book, Groups, the User accounts, and Triggers (all living databases) take effect immediately. However, the changes are lost when the system restarts if the Save to Flash is not performed before the restart.

Save

Click Save to save your **system settings** to the flash memory.

Restart

This is optional. You do not have to restart the MultiModem iSMS after saving to the flash memory.

Configuring the MultiModem iSMS Using the Wizard Setup

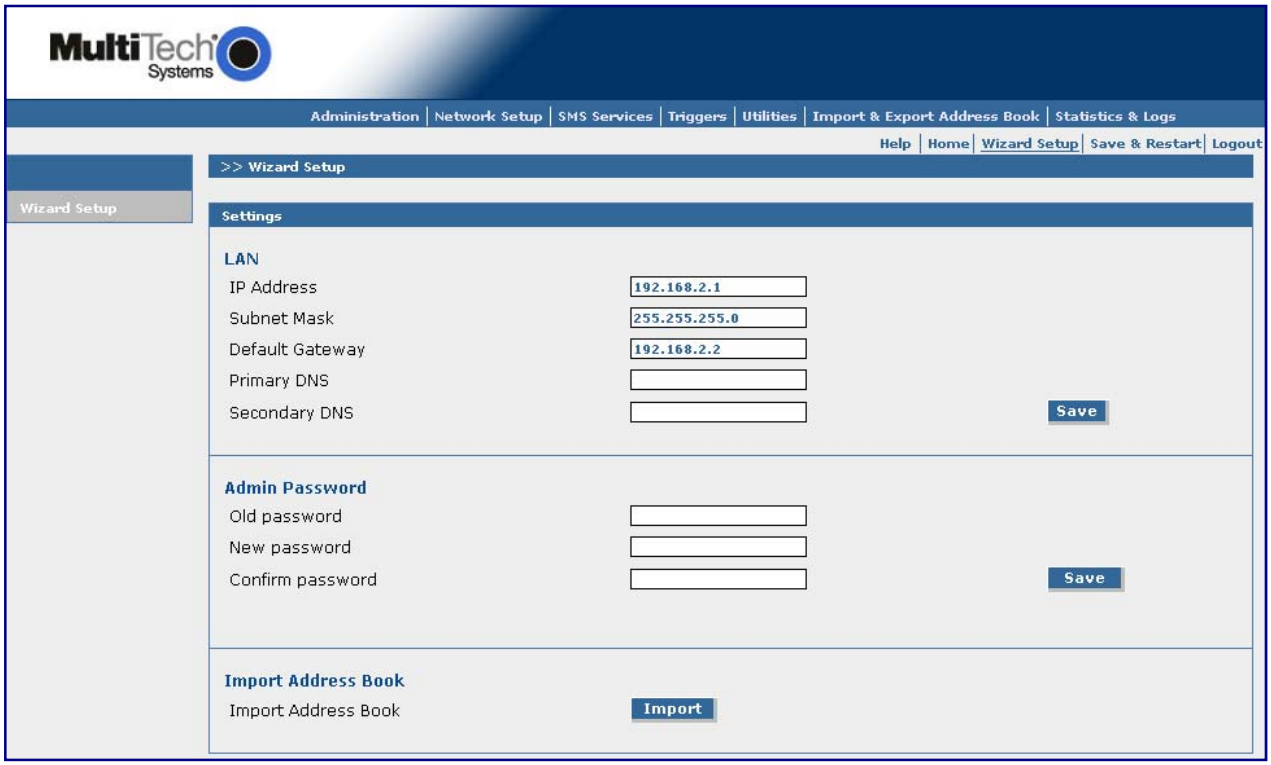
The Wizard Setup lets you conveniently enter the minimal setup requirements for a user based (web browser) Send SMS environment. The information you enter here carries over to other windows that require similar information.

Note: For new units (units defaulted to factory settings), Received SMS is handled by the Receive API Polling feature. You can use the Web Management interface to set up additional features and functions.

Opening the Wizard Setup Window

To open the Wizard Setup:

1. Log in.
2. Click **Wizard Setup** located under the menu bar.

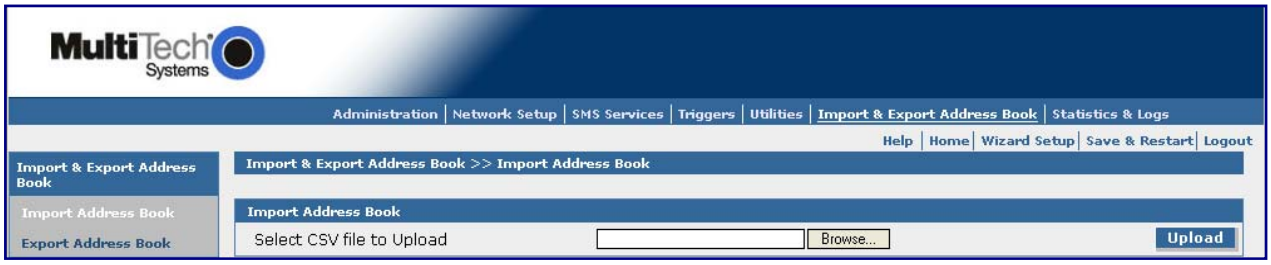


3. In the LAN group, enter the desired LAN settings. Currently saved LAN settings are displayed.
   - **IP Address** – Enter the new IP address the MultiModem iSMS needs to use.
   - **Subnet Mask** – Enter the subnet mask value to be used.
   - **Default Gateway** – Enter the IP address of your network's internet router or gateway.
   - **Primary DNS** – Enter the IP address of your network's primary DNS server.
   - **Secondary DNS** – Enter a secondary DNS IP Address (if any).
   - **Save** – Click **Save**.

4. In the Admin Password group, change the password. Change the password immediately after initial installation and also change it regularly thereafter for security purposes.
   - **Old Password** – Enter the existing password (factory default is **admin**).
   - **New Password** – Enter new password.
   - **Confirmation** – Confirm your new password by re-entering it into this field.

   Note: You might want to record the new password for future reference.

5. In the Import Address Book group, click **Import**. The Import Address Book window displays.


MultiTech Systems
Administration | Network Setup | SMS Services | Triggers | Utilities | Import & Export Address Book | Statistics & Logs
Help | Home | Wizard Setup | Save & Restart | Logout
Import & Export Address Book
Import Address Book
Export Address Book
Import & Export Address Book >> Import Address Book
Import Address Book
Select CSV file to Upload
Browse...
Upload

   Use this window to upload a database of mobile endpoint contacts. Each contact entry in the CSV (comma separated values) formatted file is to have 4 values in this order: ***firstname*, *lastname*, *description*, *phonenumber***.

   a. To browse for the address file you want to use, click Browse and navigate to the area where your file is located.

   6. Click **Upload**.

Saving System Settings

When you finish entering MultiModem iSMS settings and configuration data, go to the Save & Restart menu and save the settings to flash memory.

Doing so saves the new settings in the flash prom and prevents the settings from getting lost at the next power up.

To save:

1. Click **Save** to save your system settings to the flash memory.
2. To restart the MultiModem iSMS, click **Restart**. This step is optional.

Chapter 4 – Using the MultiModem iSMS Web Interface

You can use the Web-based configuration and management interface to set up SMS features and parameters. This chapter describes the Web Interface.

Note: The antenna must be attached so the MultiModem iSMS can operate.

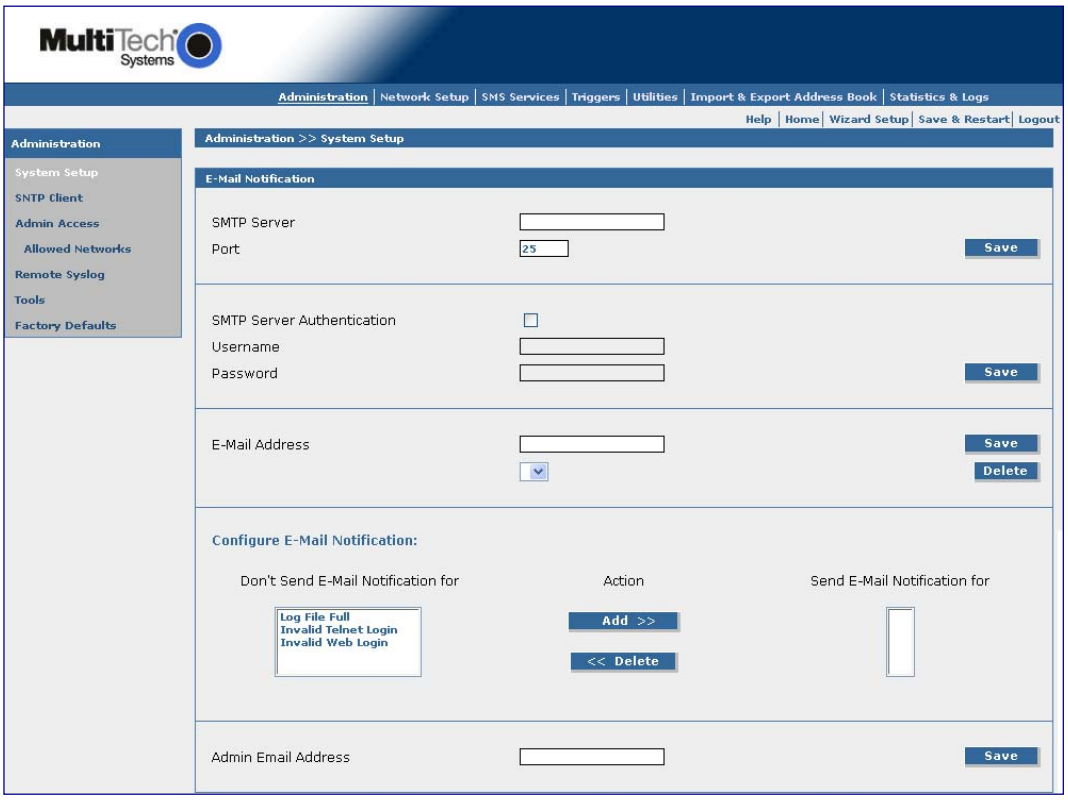
IMPORTANT Note About Saving your Settings to Flash Memory

When you have completed your MultiModem iSMS settings, you must go to the **Save & Restart** menu located at the top of the window under the menu bar. Then click the Save to Flash save button. This saves all your system settings to flash memory and prevents them from being lost after a system restart.

Administration

Administration > System Setup

On the System Setup window, you can set up the e-mail address of the administrator to whom e-mails are sent for event notification. You must enter the e-mail address in proper "*user@domain*" format.



Configuring E-Mail Notification

E-mail notification is delivered through the Ethernet network with an Internet connection, not through the wireless cellular connection.

SMTP Server
Enter the IP address or the resolvable name of your mail server; for example, smtp.yourdomain.com

Port
Enter the port number on which the mail server listens. Example: 25. Click **Save**.

SMTP Server Authentication
Some mail servers accept connection only after a user name and password are authenticated. If your server requires this, check the **SMTP Server Authentication** box. Then enter the User Name and Password in the next fields.

User Name
If your mail server accepts connection only after a user name and password are authenticated, enter the user name.

Password
If your mail server accepts connection only after a user name and password are authenticated, enter the password. Click **Save**.

E-Mail Address
Enter the e-mail addresses of the individuals who are sent notifications regarding the log file being full, an invalid Telnet login, or an invalid Web login. The administrator may want use their office e-mail address, home e-mail address,and so on. Enter the addresses in proper user@domain format. Click **Save** after each entry. You can change or delete an address at any time.

You must enter at least one e-mail address.

Configure E-Mail Notification
Select the types of notifications that you want sent to individuals. Click **Add**. Each entry then moves to the **Send E-Mail Notification For** box. To remove a notification, click **Delete**. The entry moves back to the **Don't Send E-Mail Notification For** box.

Defaults for **Don't Send E-Mail Notification** are:

1. Log File Full
2. Invalid Telnet Login
3. Invalid Web Login

Administrator E-Mail ID
Enter the administrator's e-mail identification. This is the name and address that appears in the FROM line of the notification emails. This allows the recipients of the notifications to direct questions or comments to the administrator.

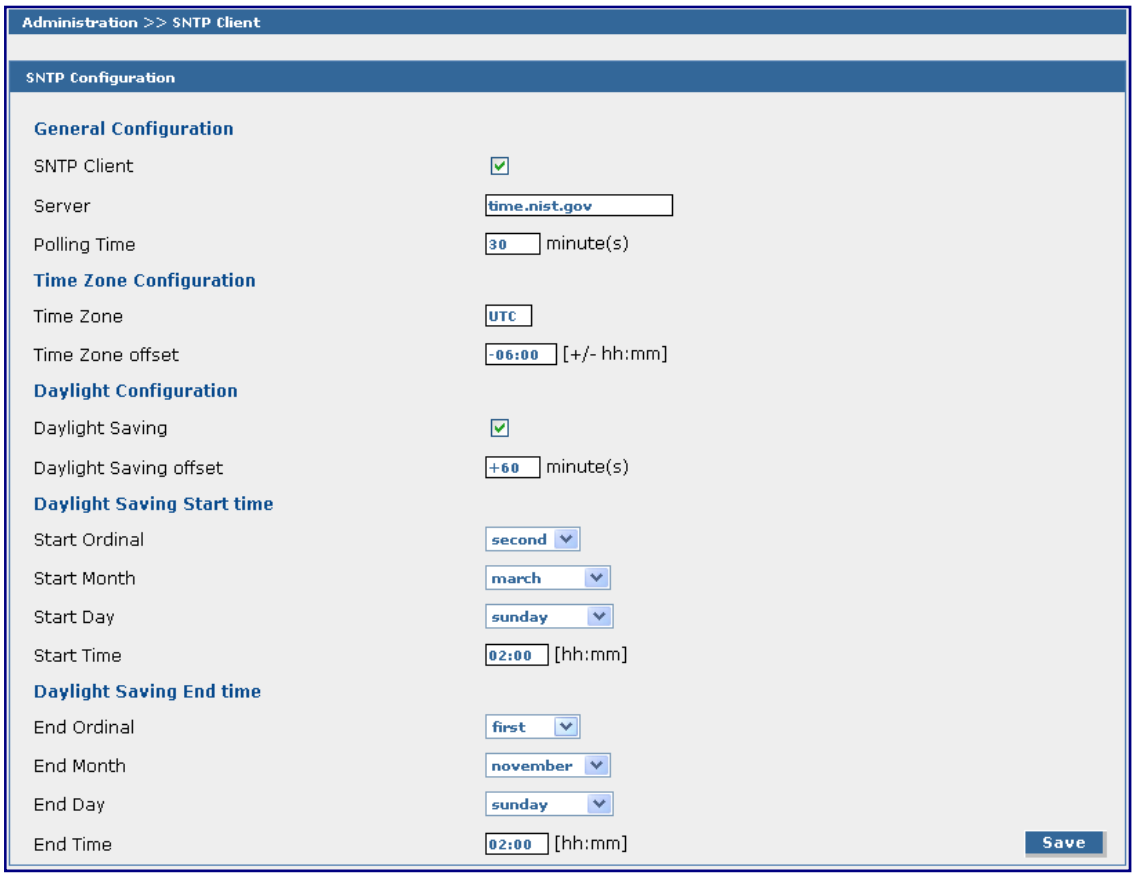
Enter the email ID in proper user@domain format.

Click **Save.**

You can delete or change the address as desired.

Administration > SNTP Client

Clicking the SNTP Client check box enables the SNTP client within the MultiModem iSMS. SNTP (Simple Network Time Protocol) is an internet protocol used to set up the synchronization of the unit's clock to real time.



Configuring SNTP

General Configuration

SNTP Client	Enable or disable the SNTP Client to contact the configured server on the UDP port 123 and set the local time. Default is **Enabled**.
Server	Enter the SNTP server name or IP address to which the SNTP Client must contact in order to update the time. The default is **time.nist.gov**.
Polling Time	Enter the polling time at which the SNTP client requests the server to update the time. Default is 30 minutes. Time must be entered in minutes.

Note:

So that messages in the outbox can have a valid date/time stamp, perform one of the following:

Enable SNTP Client and ensure the Ethernet connection is live to the Internet.

-or-

Enter the MultiModem iSMS phone number on the **Network Setup > Cellular Modem** window.

Time Zone Configuration

Time Zone	Enter your time zone. Default = UTC (Universal Coordination). The greenwichmeantime.com website has Time Zone information in detail or you can find a portion of the Time Zone abbreviations in Appendix E of this manual.
Time Zone Offset	Enter +/- hh:mm. Default = +06:00. Offset is the amount of time varying from the standard time of a Time Zone.

Daylight Configuration

Daylight Saving	Enables/disables Daylight Saving mode. Default is Enable.
Daylight Saving Offset	Set the offset to use during Daylight Saving mode. Default is +60 minutes. Enter the time in + / - minutes. Offset is the amount of time varying from the standard time of a Time Zone.

Daylight Saving Start Time

Start Ordinal (Month, Day, Time)	Set the start ordinal to use during Daylight Saving mode. Options are first/second/third/fourth/last. Default is second. Daylight Saving time usually starts at the same time on the same day of the week in the same month every year. Each day of the week occurs four or five times a month. Therefore, you are selecting the week in which daylight saving time starts: the first, second, third, fourth or the last of the month.
Start Month	Set the start month to use during Daylight Saving mode. The default is March.
Start Day	Set the start weekday to use during Daylight Saving mode. The default is Sunday.
Start Time	Set the start time to use during Daylight Saving mode. The default is 02:00 (hh:mm).

Daylight Saving End Time

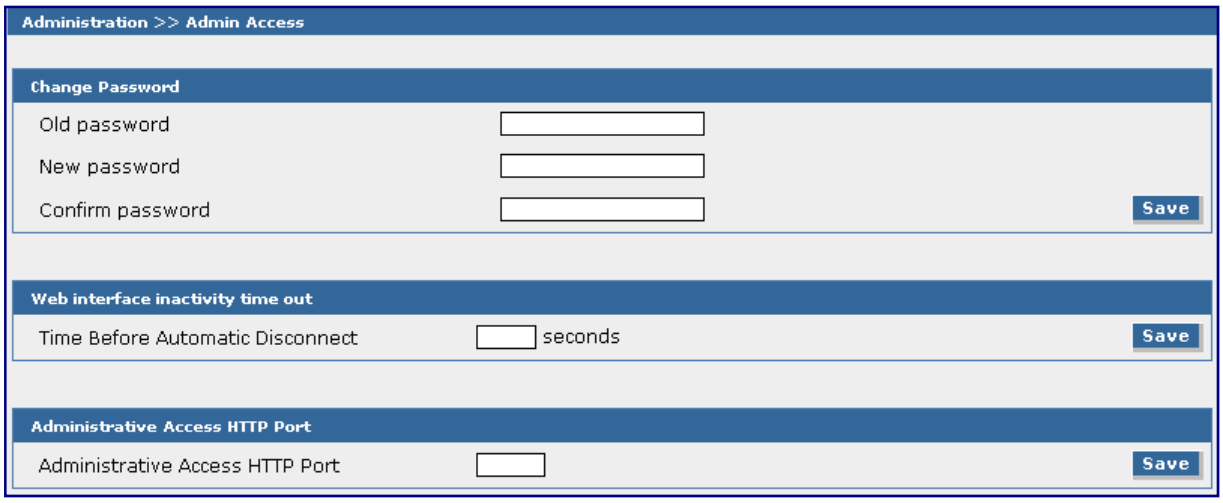
End Ordinal (Month, Day, Time)	Set the end ordinal to use during Daylight Saving mode. Select the week in which daylight saving time ends. Options are first/second/third/fourth/last. The default is first.
End Month	Set the end month to use during Daylight Saving mode. The default is November.
End Day	Set the end weekday to use during Daylight Saving mode. The default is Sunday.
End Time	Set the end time to use during Daylight Saving mode. The default is 02:00 (hh:mm).

Save Button

Click **Save** to save these settings.

Administration > Administrative Access

Use this window to set up the password that the administrator uses, to set an automatic inactivity disconnection interval and to define the TCP port on which the Web Management interface listens.



Change Password

Old Password, New Password, Confirm Password

To change the password, enter the existing password in the *Old Password* field, enter the new password into the *New Password* field, and confirm your new password by re-entering it into the *Confirm Password* entry field. Click **Save**.

Note: Change the password immediately after initial installation and configuration, and also change it regularly thereafter.

Web Interface Inactivity Time Out

Time Before Automatic Disconnect

An automatic inactivity disconnection interval is part of this firmware for security purposes.

In the *Time Before Automatic Disconnect* entry field**,** enter the desired time span (in seconds) after which are automatically disconnected from the Web Interface if no operations take place.

- The default setting is 600 seconds, which usually allows enough time to download the CSV file.
- The smallest possible setting is 30 seconds.
- The maximum setting is 3600 seconds.

Click **Save**.

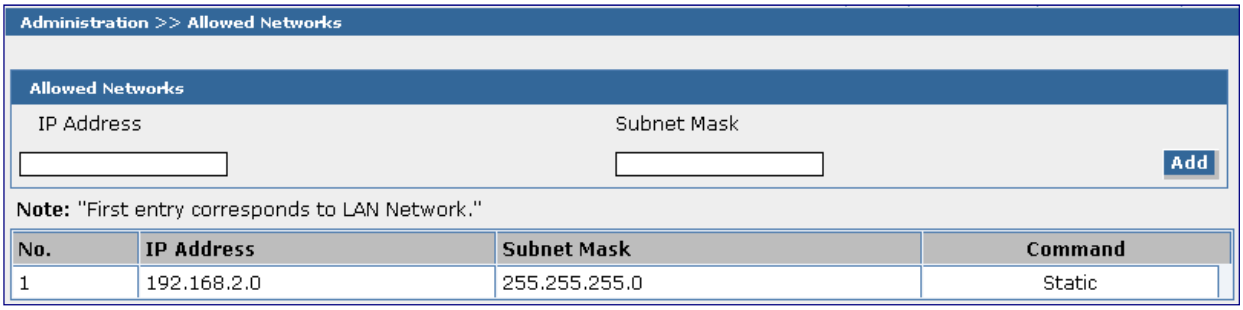
Administrative Access HTTP Port

Specify the HTTP port for administrative access. Port 80 is the default used for HTTP sessions. If you choose to change the port number, ensure it is between 1 and 65535. Port numbers currently in use by the MultiModem iSMS are not allowed.

Click **Save**.

Administration > Admin Access > Allowed Networks

Use this window to set the networks that can access the MultiModem iSMS. The administrator can then add, edit and delete any network. By default, the LAN network is always allowed access to the MultiModem iSMS. In addition, the administrator can configure the IP Address and Subnet Mask as 0.0.0.0 to allow access to any network.



Allowed Networks

IP Address – Enter the IP address of any network you want to allow access to the MultiModem iSMS.

Subnet Mask – Enter the Subnet Mask of any network you want to allow access to the MultiModem iSMS.

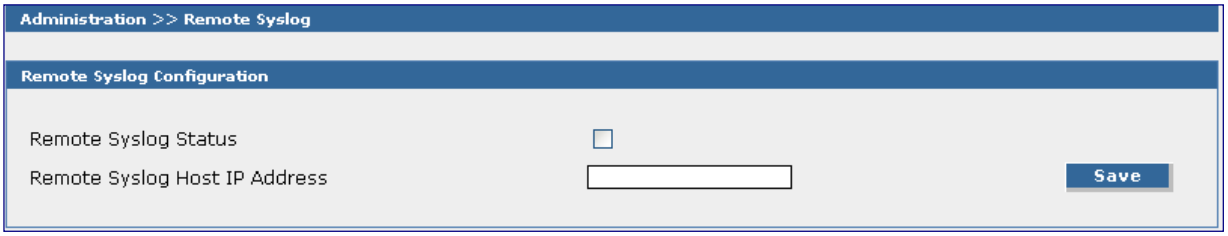
Add – Then click **Add**.

The allowed network displays at the bottom of the window.

Note: The first entry is the LAN Network, which defaults onto this window. Subsequent entries have Edit and Delete as Command options.

Administration > Remote Syslog

Use this window to enable/disable the Syslog Client in the MultiModem iSMS and to define the IP address of the Syslog Server. The default is *Disabled*.



Remote Syslog Configuration

Remote Syslog Status – Check the Remote Syslog Status box to enable this remote syslog.

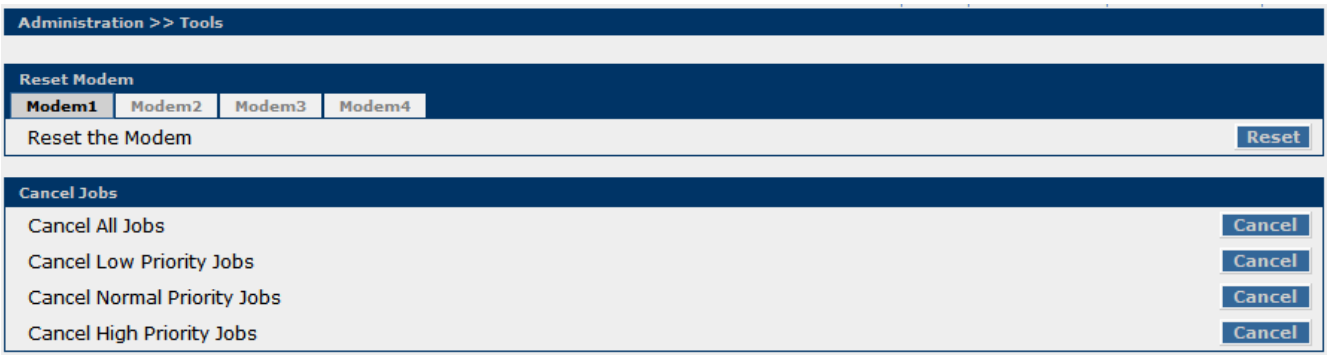
Remote Syslog Host IP Address – Enter the IP address or resolvable name of your Syslog server.

Save – Then click **Save**.

Note: When Remote Syslog is enabled, the Trace Log windows (found in the Statistics and Logs menu) no longer display data. The data is now being sent to your Syslog Server.

Administration > Tools

Use this window to reset the cellular modem. You may want to use Reset if you have lost your connection or if the modems are not functioning properly but you don't want to recycle power through the MultiModem iSMS.



Reset Modem

After clicking on the modem tab for the modem you want reset, click **Reset**. The modem corresponding to the number selected (1 – 4 for the SF 400, 1 – 8 for the SF 800) is reset.

Cancel Jobs

From here you can cancel "Pending" SMS messages that have been submitted for sending via either Send API or the Send SMS menu. View the "Send API Status Log" window found in *Statistics and Logs* | *Log Traces* menu to determine message status. Pending messages submitted by the Send SMS Web interface are cancelled.

Cancel All Jobs

Clicking this Cancel button stops and clears all jobs queued.

Cancel Low Priority Jobs

Clicking this Cancel button stops and clears all jobs flagged as Low Priority that are queued.

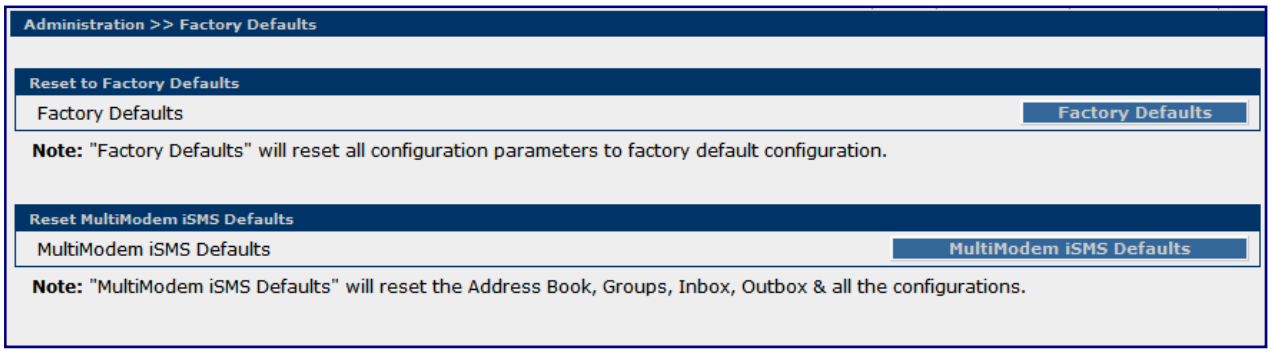
Cancel Normal Priority Jobs

Clicking this Cancel button stops and clears all jobs flagged as Normal Priority that are queued.

Cancel High Priority Jobs

Clicking this Cancel button stops and clears all jobs flagged as High Priority that are queued.

Administration > Factory Defaults


Administration >> Factory Defaults
Reset to Factory Defaults
Factory Defaults
Factory Defaults
Note: "Factory Defaults" will reset all configuration parameters to factory default configuration.
Reset MultiModem iSMS Defaults
MultiModem iSMS Defaults
MultiModem iSMS Defaults
Note: "MultiModem iSMS Defaults" will reset the Address Book, Groups, Inbox, Outbox & all the configurations.

Reset to Factory Defaults

Click **Factory Defaults** to set all configuration parameters to the factory default settings. This includes setting the administrator account password back to "*admin*" and deleting all User accounts.

Performing this function does NOT delete entries out of the Address Book, Groups, Inbox or Outbox databases.

Invoke the Factory Defaults option when you want to set the default encoding type per the SMS Settings menu option.

Reset MultiModem iSMS Defaults

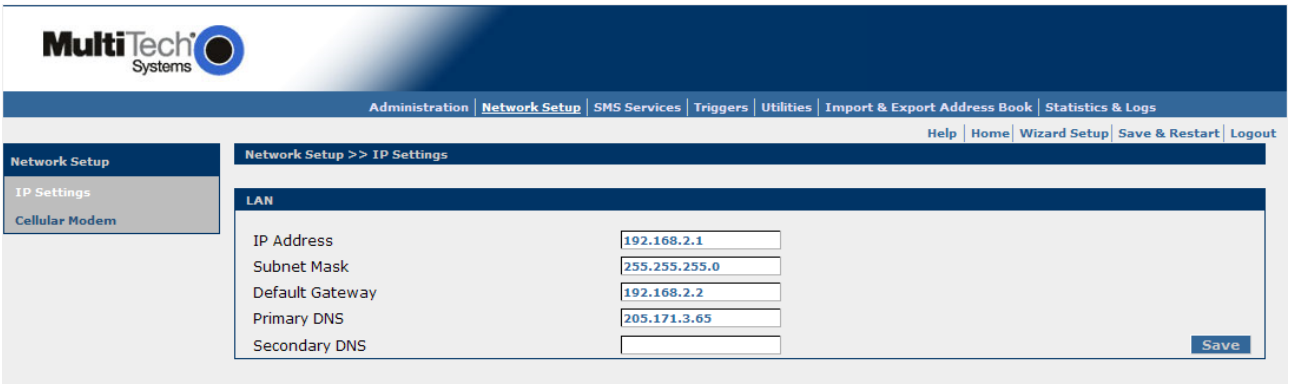
Click **MultiModem iSMS Defaults** to load all system configuration parameters to the original factory default settings, including default encoding type AND it deletes all entries that may be in the Address Book, Groups, Inbox and Outbox databases. Invoking the "MultiModem iSMS Defaults" is a full default.

Note: The back panel Reset button performs the same function as the "MultiModem iSMS Defaults" option.

Network Setup

Network Setup > IP Settings

Use this window to set up your network.


MultiTech Systems
Administration | Network Setup | SMS Services | Triggers | Utilities | Import & Export Address Book | Statistics & Logs
Help | Home | Wizard Setup | Save & Restart | Logout
Network Setup
IP Settings
Cellular Modem
Network Setup >> IP Settings
LAN
IP Address 192.168.2.1
Subnet Mask 255.255.255.0
Default Gateway 192.168.2.2
Primary DNS 205.171.3.65
Secondary DNS
Save

IP Settings – LAN

The MultiModem iSMS needs to be programmed with a static IP address. The MultiModem iSMS does not support DHCP assigned IP addresses.

IP Address

Enter the IP Address of the LAN Interface. The factory default is 192.168.2.1.

Subnet Mask

Enter the Subnet Mask for the IP address configured. The factory default is 255.255.255.0.

Default Gateway

Enter the Default Gateway. The factory default is 192.168.2.2.

Primary DNS and Secondary DNS

Enter the address of the primary and secondary DNS (domain name system) IP Address. The order in which domain names are entered is the order in which they are consulted.

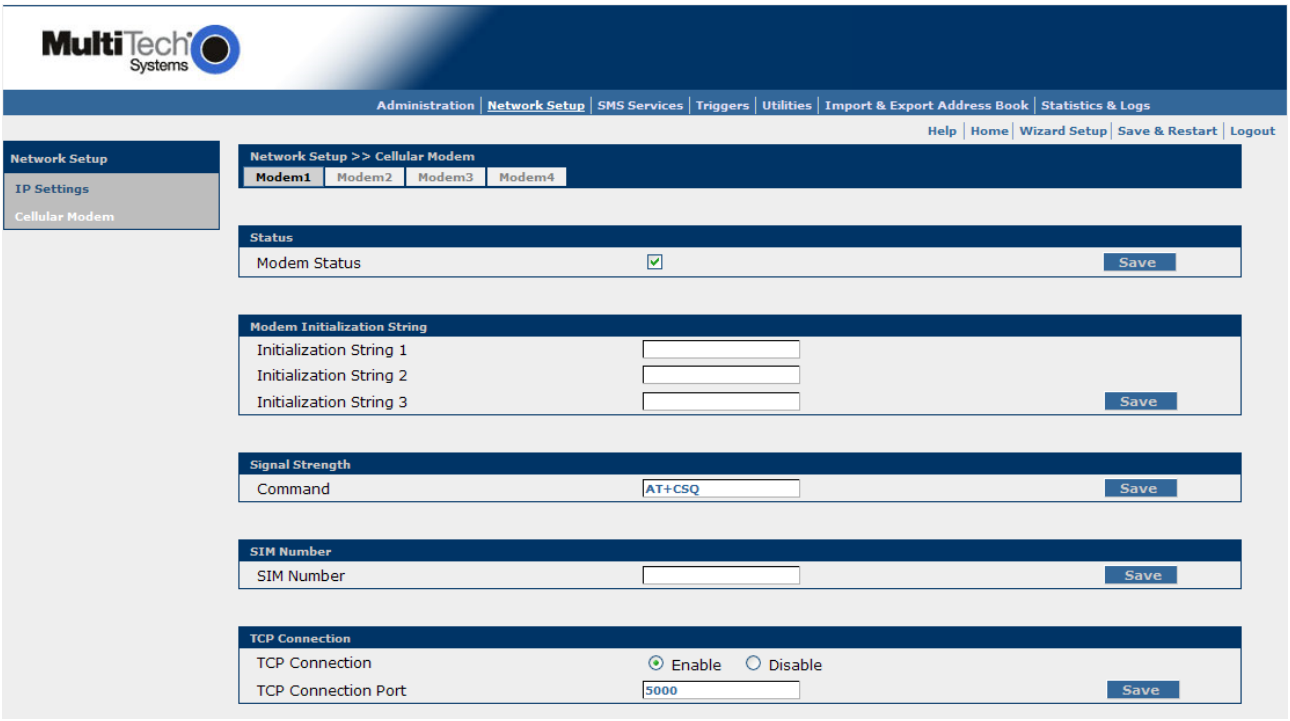
> Note:
>
> Valid Gateway and DNS Addresses: For e-mail notifications and SNTP Time/Date accuracy, you must have a live Ethernet connection, and this requires a valid gateway address and at least one DNS address.

Save

Click **Save**.

Network Setup > Cellular Modem

Use this window to configure the cellular modems. Click the Modem# tab at the top to work with that specific modem. You configure each modem individually.



Status

Modem Status (SF 400 and SF 800 models only)

This box is checked by default. This means that this modem is considered for use. If you do not have or want a SIM card for a particular modem, uncheck the box so that the modem is not used. Repeat this process for any modems that do not have SIM cards. A graphic to show which internal modem is assigned to each number is in the SIM card installation section of Chapter 2.

Save

After configuring a modem, click **Save** before you select the next modem to configure from the modem tabs.

Modem Initialization Strings

Initialization Strings 1 – 3

Initialization strings are composed of AT commands sent to the modem to initialize and prepare it for connection. The contents of these 3 fields are sent in addition to and after the built in initialization commands are issued by the iSMS server. The modems are initialized upon power up, modem status enable, modem port reset and upon termination of TCP connections. See the GPRS AT Commands Reference Guide for additional information.

Save

After configuring a modem, click **Save** before you select the next modem to configure from the modem tabs.

Signal Strength Command

The string entered here is sent to the cellular modem so that the signal strength LEDs can display the current signal strength. Use the following command: **AT+CSQ**

The following table lists the meaning of the **xx** values in the signal strength response and explains how they correspond to the number of LEDs lit for signal strength.

AT+CSQ xx Values	SF 100 Signal LED Bars	Signal Strength
0 to 6	No light	Very weak signal
7 to 14	1 Bar LED is lit	Weak signal
15 to 23	1 Bar and 2 Bar LEDs are lit	Stronger signal
24 to 31	1 Bar, 2 Bar, 3 Bar LEDs are lit	Strongest signal

Save

Click **Save**.

SIM Number

SIM Number

Specify the cellular phone number that the wireless provider assigned to your account. Do not enter dashes. **Example:** 6125551234.

The MultiModem iSMS uses as an alternate means of synchronizing the system clock. If you are using SNTP for your time stamp, you do not need to enter a SIM number.

Note: If your SIM card is locked, you cannot send SMS messages.

When a number is entered in this field, upon system start up (after the port is done being initialized and has registered on the cellular network) the unit sends an SMS with the text "Time Setting Loopback Message" to the defined number. The Cellular Network routes the SMS back to this port (assuming the account associated to the SIM in this port is setup correctly, and the number you entered matches that of the SIM). The MultiModem iSMS then uses the time stamps found within the header of this specific SMS to set its internal clock. This message (Time Setting Loopback) is counted in the SMS Statistics, and Listed in the Trace Logs (Sent and Received categories). This message is logged in the SMS Inbox, however it is not logged in the SMS Outbox.

Save

After configuring a modem, click **Save** before you select the next modem to configure from the modem tabs.

TCP Connection

The TCP Connection feature is a per modem port feature that provides direct AT Command access to the modem's serial interface for troubleshooting purposes only. When you open a TCP socket on the defined TCP port number (*e.g.* 5000), the modem is no longer available to the unit's send and receive queues. Events that occur while the socket is open to the modem do not get logged by the system (*i.e.* SMS messages received by the modem are not logged in the system nor delivered through the Receive API process). It is recommended that you disable this feature after you have setup and tested the system.

TCP Connection

Enable or **Disable** the TCP Connection by clicking the appropriate radio button. Default: **Enable**

TCP Connection Port

The TCP port number on which the MultiModem iSMS is listening. Ensure each cellular modem port in the MultiModem iSMS is listening on a different TCP port number.

Default is 5000 for an **SF100**; 5000 thru 5003 for ports 1 through 4 of an **SF400** and 5000 through 5007 for ports 1 thru 8 of an **SF800**.

Save

Click **Save**.

Save & Restart

IMPORTANT Note About Saving System Settings

When you have completed entering your MultiModem iSMS settings and you are not going to enter any more configuration data, you must go to the Save & Restart menu and perform a Save to Flash. Saving to the Flash Memory saves the new settings in the flash prom and prevents the settings from getting lost at the next power up.

Save

Click Save to save your **system settings** to the flash memory.

Restart is Optional

This is optional. You do not have to restart the MultiModem iSMS after saving to the flash memory.

SMS Services

Use the sub menus in SMS Services to define how the MultiModem iSMS SMS server handles incoming and outgoing SMS messages.

You can also use the Send SMS menu to generate and send SMS (text) messages to other mobile devices, which are specific numbers or entries in the Address Book.

SMS Services > Address Book

The Address Book contains a list of cellular recipients (mobile end points) to which the MultiModem iSMS can send SMS messages. Address Book entries are available to the Groups, Send SMS and Broadcast Triggers menus and the Send API feature.

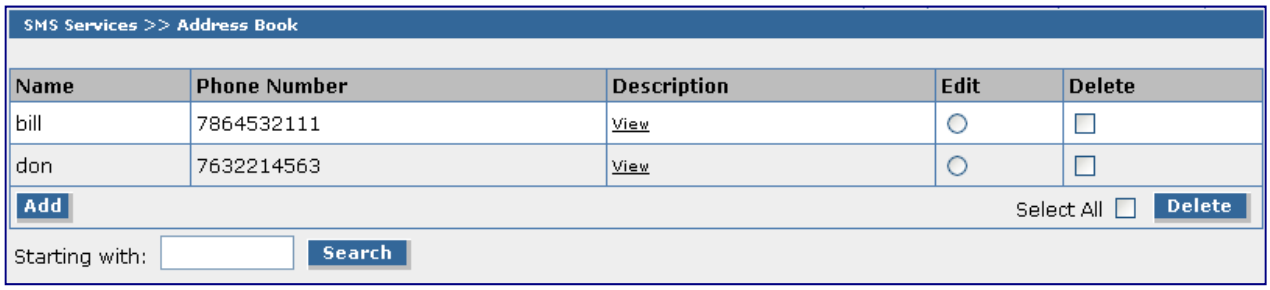
There are 3 ways to create Address Book entries:

- Enter names and phone numbers manually. Use the following window to enter addresses in this way.
- Import an Address Book. See the details in the: **Import & Export Address Book > Import** section of this chapter.

  Note: You must perform a Save to Flash to permanently save Address Book entries (to prevent the entries from being lost upon a system restart).
- Remotely enter a name and phone number. See how to do this in the: **Triggers > Action Triggers** section of this chapter**.**

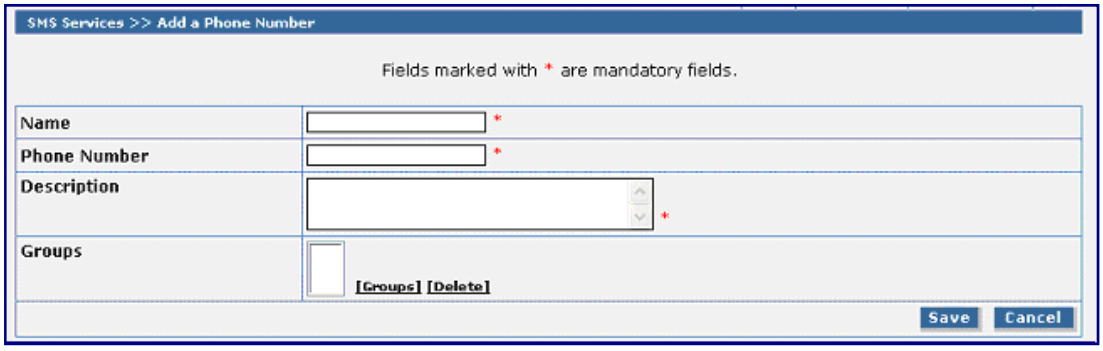
Manually Adding Names and Phone Numbers to the Address Book:

Use this window to manually add the names and phone numbers of any person(s) you want to include in your address book. If you imported an address book, you can use this window to add names not included in the imported Address Book. All address book names display on this window, and each entry can be edited, deleted, and/or added to a group list.



Address Book
Click **Add** to display the Add a Phone Number window.

Add a Phone Number
Note that fields marked with an asterisk are required.



Name
Enter the name of the person you want to add to the SMS Phonebook. The maximum number of characters is 50 including spaces and punctuation.

Phone Number
Enter the mobile phone number of person you are adding. The maximum number of characters is 50 including spaces and punctuation.

Note: If you plan to implement the Broadcast Trigger feature with the Authenticate option enabled, you must enter the phone number string exactly as the cellular network presents the sender's number on incoming SMS messages.

For example: +17632493555 instead of just 7632493555. To determine the exact format, use your cell phone and send a simple text message to the phone number/SIM card in port 1 of your MultiModem iSMS, then go to the SMS Live Log menu (in Trace Logs) for Port 1 and view the +CMT unsolicited response (SMS text message) received by the cellular modem in port 1. The following is an example of a received SMS as shown in the SMS Live Log: *+CMT: "+17632346274",,"10/08/06,15:52:35-20",145,4,0,0,"+16363848827",145,26 simple message from your phone*

Description
Enter any additional information about this phonebook entry that helps you contact or identify this person. The maximum number of characters is 120 including spaces and punctuation.

Groups
If you want this person to be a member of a phonebook group, select the group name from this box.

Note: You must first enter Group names on the **SMS Services > Groups** window before they appear here.

Save or Cancel
Click **Save** to save the entries.

Click **Cancel** if you want to start over on this window or want to end the entries from the last **Save**.

SMS Services > Groups

Use this window to create groups of recipients (names and phone numbers of mobile end points). Groups allow you to send SMS messages to many individuals using only a group name.

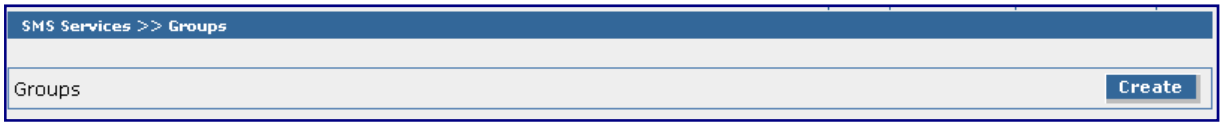
A group is made up of entries from the Address Book. You can create up to 50 groups.

You can establish a group based on a common function, a location, or an activity such as an Administrators group, an Engineers group, a Building 201 group, a Basketball Team group, and so on.

After you create a group, you can use this feature to edit and delete the groups.

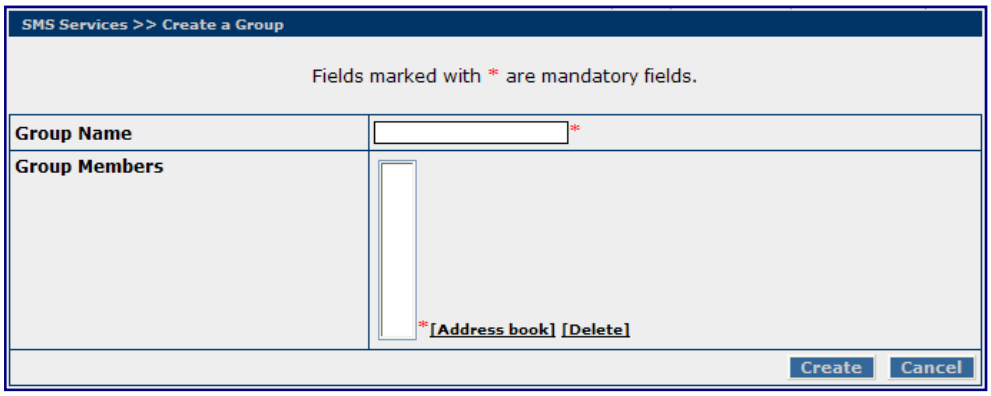
Creating Groups

1. To create a group, click **Create**.



The Create a Group window opens.

2. Enter information into fields marked with an asterisk, as described in the table that follows.

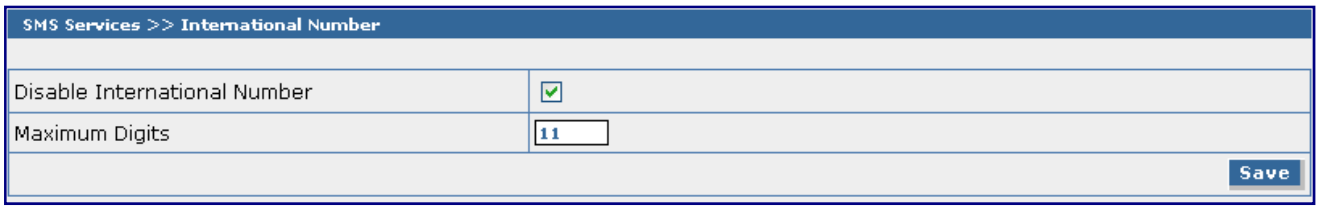


Group Name	Enter a name for the group you want to create. Maximum number of characters is 10. You can later edit Group names.
Group Members	To assemble a group: 1. To open a list of individuals in your Address Book, click **Address Book**. A pop up window appears, displaying the contents of the Address Book 2. Highlight the name of the user you want to add to the group, then click "Add", Close the pop up window. The selected address book entries are listed as group members. You may also use the '*Select the entire Address Book*' checkbox instead to all entries to this group. 3. To remove a user from the group, highlight that user's name and click **Delete**

4. After assembling the group, click **Create**. You return to the Group page.
5. To abandon the changes, click **Cancel**.

SMS Services > International Number

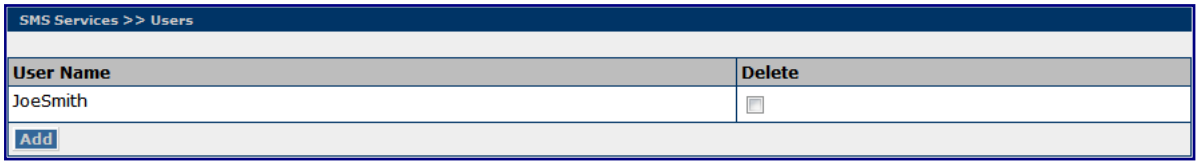
Use this window to enable SMS messaging to international numbers. International numbers are identified according to the number of digits.



Disable International Number	If **Disable International Number** is checked (this is the default), SMS messages can be sent to phone numbers limited by the maximum allowed digits, as entered in the **Maximum Digits** field. If **Disable International Number** is **NOT** checked, SMS messages can be sent to any phone number.
Maximum Digits	Enter the number of digits you want to be allowed when **Disable International Number** is checked. The default is 11 digits.
Save	Click **Save**.

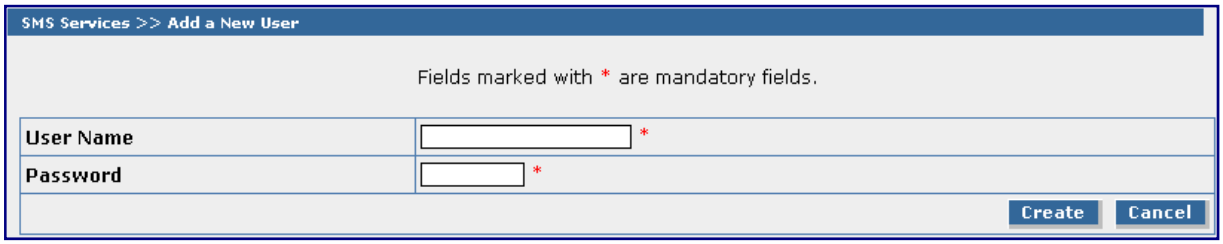
SMS Services > Users

Use this window to create a list of users who can have limited access to the MultiModem iSMS to send SMS messages and monitor their associated outbox. The figure below includes an example entry called "JoeSmith".



Adding Users

1. To add a user, click **Add** The Add a New User window opens.



2. Enter information into fields marked with an asterisk, as described in the table that follows.

User Name	Enter the user's name. Spaces are not allowed.
Password	Enter a password for this user. Each user must have a unique password. You must enter a minimum of 5 characters.

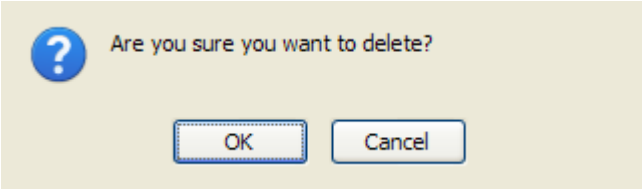
3. After entering users, click **Create**. If you want to start over, click **Cancel**.

Deleting Users

After you add a user, the **Delete** checkbox is available.

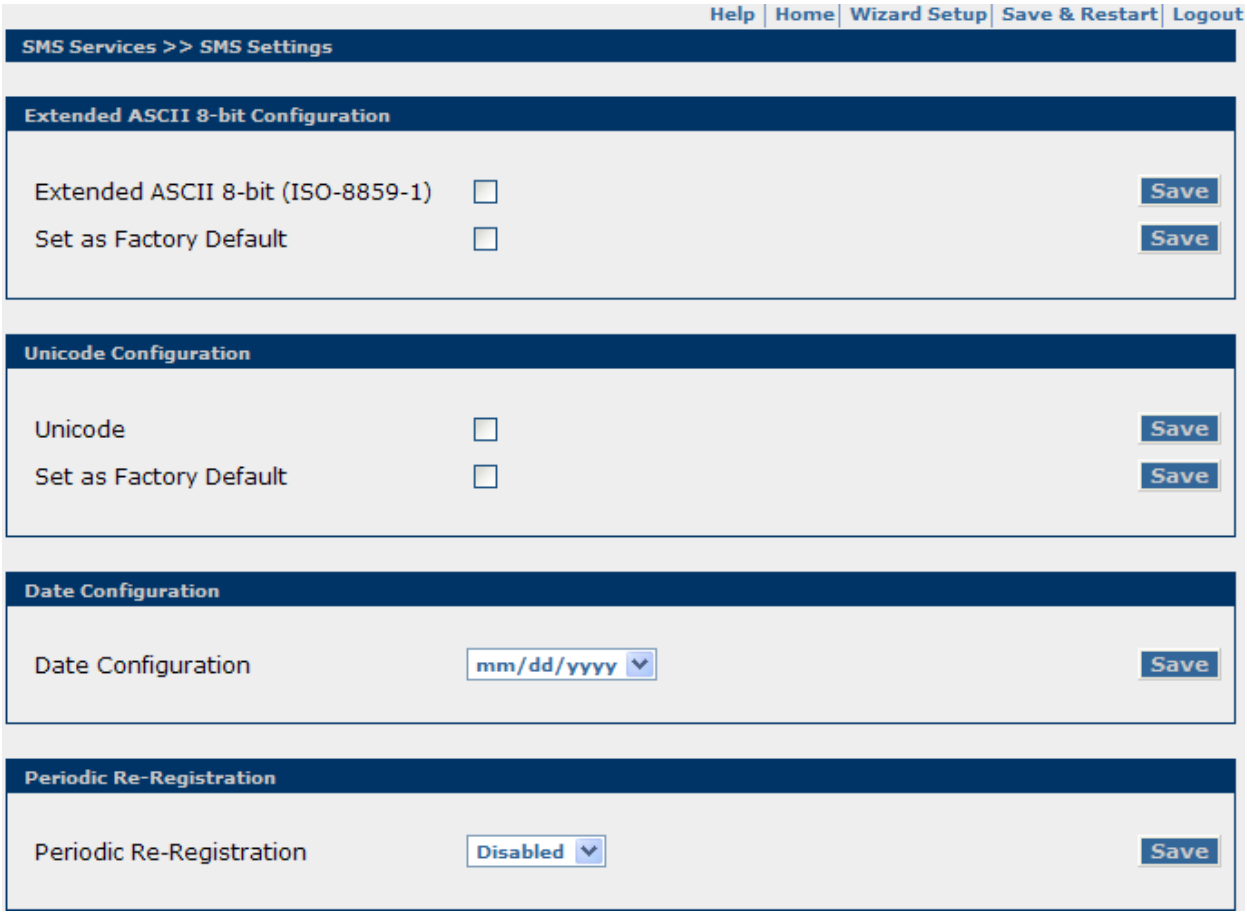
To delete a user:

1. Click the Delete check box. A pop-up dialog box asks you to confirm the deleting of this user.
2. Click **OK** to permanently remove the selected user.


Are you sure you want to delete?
OK
Cancel

SMS Services > SMS Settings

Use this window to set general system settings related to SMS encoding format, time & date format and network registration.



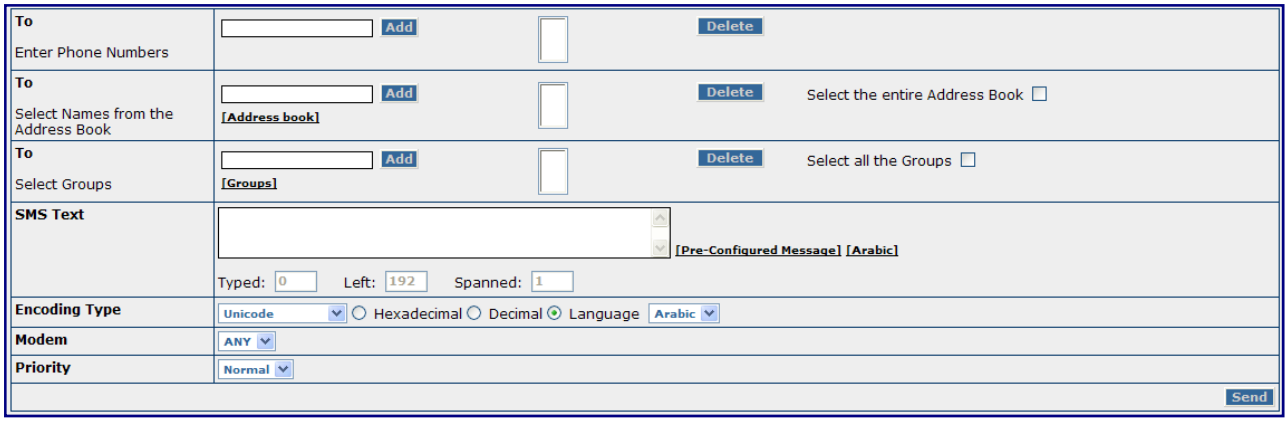
Extended ASCII 8-bit (ISO-8859-1)	Enabling this mode allows the MultiModem iSMS to pass characters in the text message that are made up of 8 bits instead of 7 bits (1 byte characters 0x80 through 0xFF). When enabled, the Extended ASCII characters option becomes available on the following windows: • Send SMS window • Triggers window • Preconfigured SMS window.
Set as Factory Default	To set Extended ASCII 8-bit as the factory default, select this check box and click **Save**. Use this option when you want to "Reset to Factory Defaults". This option is ignored and overwritten when invoking the "Reset MultiModem iSMS Defaults" option.
Save	Click **Save** to set each changed setting before navigating away from this page.
Unicode	Enabling this mode allows the MultiModem iSMS to pass characters encoded using UTF16 (2 byte characters 0x0001 through 0xFFFF). Select this check box and click **Save** to allow Unicode text in the SMS messages
Set as Factory Default	Select this check box and click **Save** to set Unicode as the factory default. This option is used when performing a "Reset to Factory Defaults". This option is ignored and overwritten when invoking the "Reset MultiModem iSMS Defaults" option.
Save	Click **Save** to set each changed setting before navigating away from this page.
Date	Select a format for the date:

Configuration	**dd/mm/yyyy** **mm/dd/yyyy** **yyyy-mm-dd** Where *dd* represents the day as 2 digits, *mm* represents the month as 2 digits and *yyyy* represents the year as 4 digits.
Save	Click **Save.**
Periodic Re-registration	This feature causes all modems in the unit to re-register (un-register and then reconnect) with the cellular network at the selected interval. This feature can prevent the appearance of the MultiModem iSMS Server being 'camped' onto the network. The MultiModem iSMS is a stationary, 24/7 device and some cellular networks implement rules that limit the maximum duration a device can be continuously registered. You can select the status of re-registration to one of several times (in hours) or Disabled. The default is Disabled.
Save	Click **Save.**

SMS Services > Send SMS

Use this menu to generate a message and then send it to specific phone numbers, Address Book contacts or Groups.

Note: The only windows available to non-administrative users include this window and a user's Outbox window.



To

Enter Phone Numbers

Enter the mobile phone numbers to which a new message is sent. Click **Add** after each entry. The phone number displays in the box. If you change your mind about a phone number, highlight the number and press **Delete**.

-and/or-

Select Names from the Address Book

Click **Address Book** to display all names. Select the names of the individuals to whom a new message is sent. Click **Add** after each name. If you change your mind about a name, highlight the name and press **Delete** or check **Select the entire Address Book,** press **Delete** and all the names are deleted.

-and/or-

Select Group

Click **Groups** to display all group names. Select the **Groups** to which a new message is sent. Click **Add** after each selection. The group name displays in the box. If you change your mind about a group, highlight the group name and press **Delete** or check the **Select all the Groups**, and press **Delete** and all groups are deleted.

SMS Text

Enter the text of the message you want to send.

-or-

You can choose a **Pre-Configured Message** that you set up on the *Triggers > Pre-Configured SMS* window. Click the **Pre-Configured Message** text to access a list of pre-configured messages. After the pre-configured message appears in the SMS Text field, you may continue to edit the contents of the message/SMS Text field.

Unicode options are also available, please see Unicode Use below.

The message entered automatically tracked by the **Typed**, **Left** and **Spanned** boxes below the entry field. Depending on the Encoding Type, the maximum characters allowed can change.

Typed

This field tracks the actual number of characters entered into the SMS Text field.

Left

This counts down the number of characters left available in the SMS Text field.

Spanned

This shows the number of SMS messages that are needed to send the text as currently entered. Messages that need to be spanned are sent concurrently. Each spanned message is prefixed with 6 characters indicating it is part of a spanned SMS. The 6 characters are:

(#of3)

Where # is equal to 1, 2 or 3.

Maximum Number of Characters Allowed with Spanning:

ASCII	462
Extended ASCII	402
Unicode	192

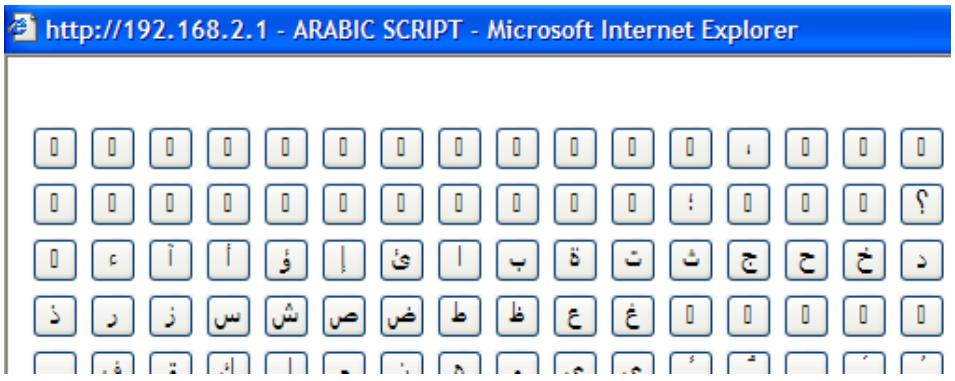
Encoding Type

Select the encoding type that you want the SMS message to be sent as.

Options: ASCII (default), Extended ASCII, Unicode.

- When **Extended ASCII** is selected, an "Extended ASCII" link is added under the SMS Text box, providing a keyboard of extended ASCII characters that can be added into the SMS Test message.
- When **Unicode** is selected, choose Hexadecimal, Decimal or Language for the Unicode type. If Language is selected, an additional drop-down box appears with specific language selections.

When a language is selected, clicking on the link after the Pre-Configured Message link brings up a virtual keyboard that allows you to enter the specified text in the SMS Text message box.



Modem

Select a specific modem from which to send the message, or use the default of “Any”.

Priority

Set the priority level for the message to be sent. When messages enter the queue to be sent, the priority levels are compared and the messages flagged as High are sent first, followed by Normal and Low.

Options: Low, Normal (default), High.

Send button

When you are ready, click **Send** to send your message – click **OK** when the pop-up “in process” message appears. The message is not sent unless you acknowledge this pop-up.

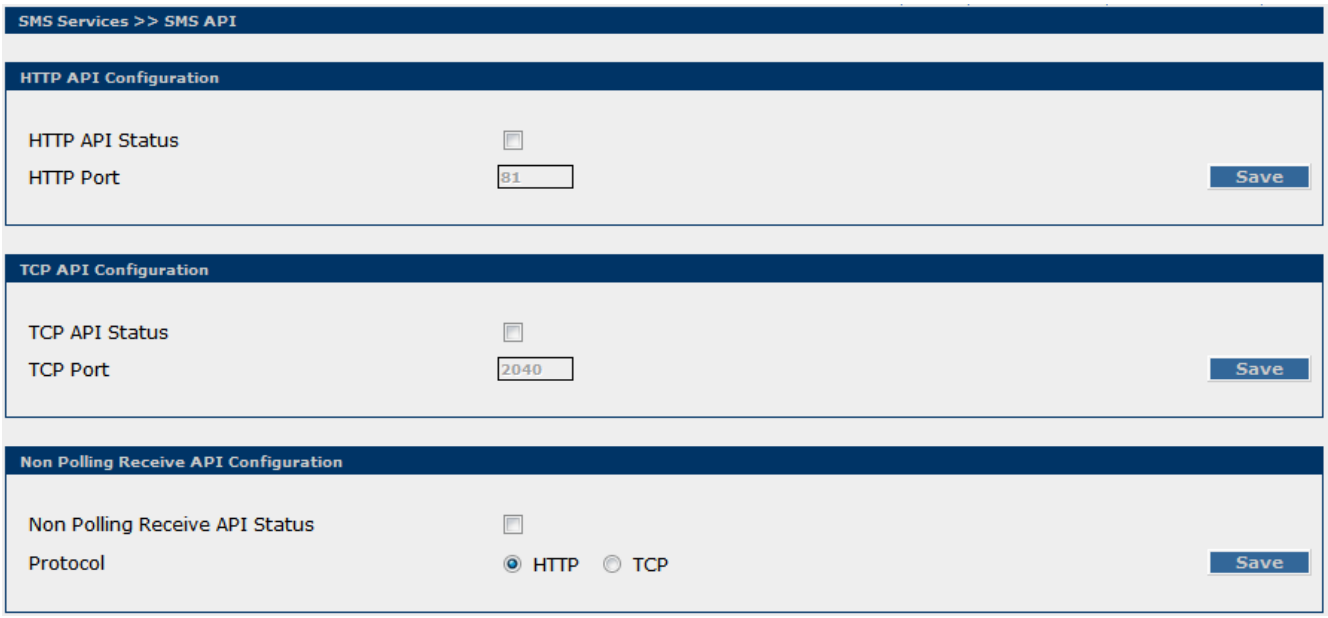
SMS Services > SMS API

This feature helps you use the MultiModem iSMS Application Program Interface (API).

HTTP API and TCP API are Send SMS APIs (for sending SMS messages to mobile endpoints on the cellular network). Both methods can be enabled and uses simultaneously.

SMS Messages received from the cellular network are handled by the Receive API process.

Note: See Appendix A for specific information on API command structure, options, responses and XML data structure.



HTTP API Configuration

IP enabled applications external to the MultiModem iSMS can submit messages for sending by using HTTP protocol Get and POST commands.

HTTP API Status

Check the box to enable the HTTP API service.

HTTP Port

Enter the port number on which the HTTP API service listens. It is recommended this port be different from what the WEB Management Interface uses. The default is 81.

Save

Click **Save**.

TCP API Configuration

IP enabled applications external to the MultiModem iSMS can submit messages for sending by using this product specific command protocol. See Appendix A for more details.

TCP API Status

Check the box to enable TCP API service. This is necessary for units participating in load balancing.

TCP Port

Enter the port number on which the TCP API service listens. The default is 2040.

Save

Click **Save**.

Non Polling Receive API Configuration

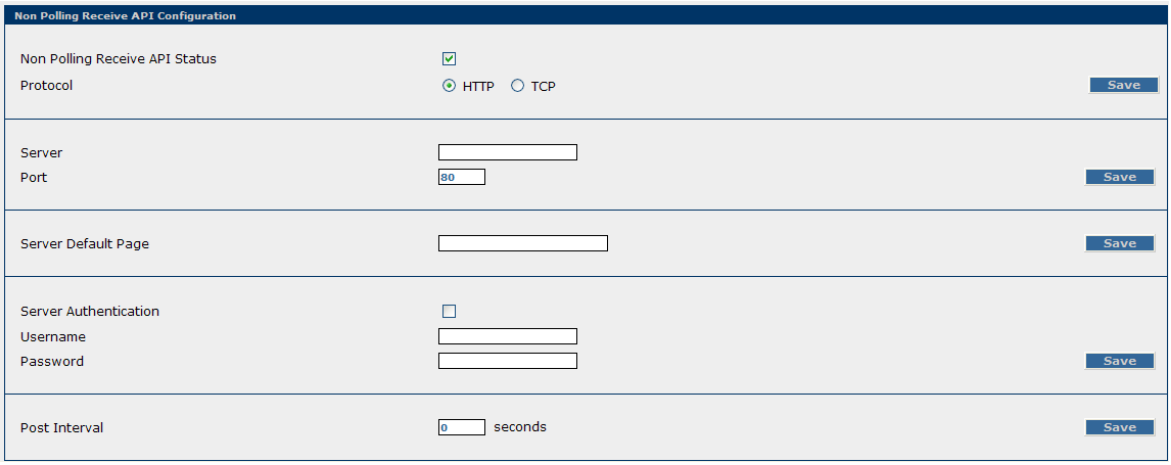
This group helps you select which method of Receive API is implemented by the MultiModem iSMS server (how SMS Messages received from the cellular network are handled).There are two methods:

- Polling: the received SMS is left in the Receive SMS queue until your application queries for it using an HTTP GET.
- Non Polling: Upon reception, the MultiModem iSMS server POSTs the message to your WEB server (or TCP application).

When the "Non Polling Receive API Status" checkbox is NOT checked, polling is enabled. When polling is enabled, perform the query on the HTTP Port number defined in the HTTP API Configuration section/menu.

Non Polling Receive API Status

Check this box to enable non-polling API status when receiving messages. This changes the SMS API section as shown below. When this is not checked, Receive API Polling is enabled. Receive API Polling is the default.



Protocol

Select the protocol that to use: HTTP or TCP.

Server

Enter the resolvable name or IP address of the server to use.

Port

Enter the port number for accessing the server.

Server Default Page

Enter the default page for the server to use.

Server Authentication

Check this box if you want to authenticate to the server. Below you can enter the username and password that allows access.

Username

Enter the username used for authentication.

Password

Enter the password associated with the above username.

Post Interval

Enter the number of seconds for the post interval.

Save Buttons

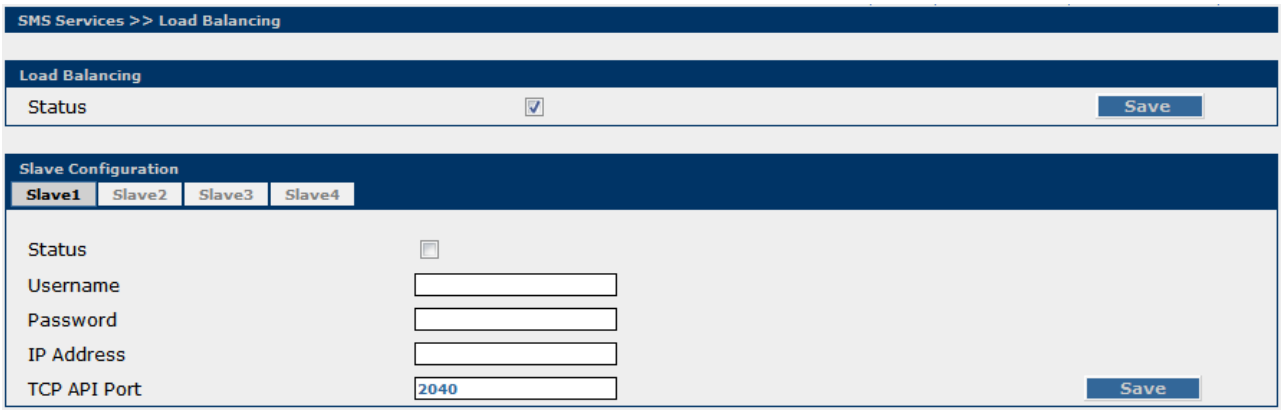
Click **Save** for each section after making changes. Unsaved changes are not maintained when you navigate from this page.

SMS Services > Load Balancing

This feature provides a single interface to your Send SMS application when multiple units are needed for increased throughput. When multiple iSMS units are available on a network, they can be set up to work together to share the outgoing message load. This is achieved by designating one unit to be the Master and subsequent units (up to 4) to be Slaves. Your Send SMS application does not need to make any changes when Load Balancing is enabled. The send SMS application still uses either of the send APIs (HTTP or TCP) to submit SMS messages for sending.

When the amount of "pending" messages within the Master reaches a system threshold, the Slave units are polled by the Master for availability, and if so available, pending messages are distributed dynamically to the slaves. Once initiated, the Master unit uses the slaves until the send queue is reduced sufficiently below the threshold. Your Send SMS Application can not specify the slave unit through which a particular message is sent.

The number of pending messages needed to surpass the threshold is a variable based on the length of each message (character count per message) and the MultiModem iSMS model number. The threshold is increased as the model number increases.



Load Balancing

Status

Check the Status box on every unit that is participating in Load Balancing and click Save.

Note: When using Load Balancing, each Slave unit must have the TCP API Status enabled. The Master unit communicates to the slaves via TCP API access.

Slave Configuration

Slave Configuration information is only to be defined in the Master unit.

Slave#

The slave# tabs are used to identify which units are slave units and login information.

Status

This box is checked *only* on the Master unit. Uncheck this checkbox for all Slave units.

Username

Enter the valid administrator username needed to access the Slave unit.

Password

Enter the valid administrator password needed to access the Slave unit.

IP Address

Enter the IP Address of the Slave unit.

TCP API Port

Enter the open port used to access the Slave unit.

SMS Services > Inbox

This window displays a list of all messages received by the cellular modem port. There is an Inbox per modem port. Each listing includes the sender's number, the message received, and a timestamp. Click on the individual modem number tabs for a list of messages received by that modem.

SF100 Note: SF100 models require a "Save to Flash" be performed for the Inbox and Outbox records to be retained upon system restart. SF400 and SF800 models do not have this requirement.

Clear Inbox

Click **Clear** to delete all the inbox entries.

From

The 'From' box shows the phone number from which the SMS was received.

SMS

Displays the text message received.

Date

Shows the day that the MultiModem iSMS received the message.

Time

Displays the time the message was received by the MultiModem iSMS.

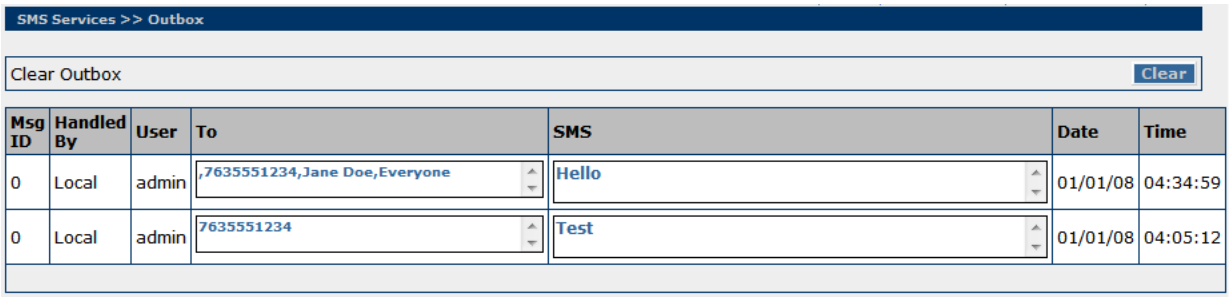
Note: The cellular service provider gives the inbox a time stamp.

SMS Services > Outbox

The Outbox is for the unit as a whole. This window chronologically lists sent messages and includes Message ID, Sending unit, who submitted the message, receiver's number, the message sent, and the timestamp.

To determine the specific modem port on which the SMS was transmitted, note the exact time and date of the message and then review the Sent SMS Log found in the Trace Logs menu.

SF100 Note: SF100 models require you to perform a "Save to Flash" for the Inbox and Outbox records to be retained upon system restart. SF400 and SF800 models do not have this requirement.



Clear Outbox

Click **Clear** to delete all the outbox entries.

Msg ID

The message ID (Msg ID) is non-zero if the message has been sent using SEND API. A Msg ID of zero means it was submitted using the Web Management Send SMS menu.

Handled By

Displays the MultiModem iSMS unit used to send the SMS. If Outbox of the unit you are viewing is the unit that sent the SMS to the cellular network, it displays "Local" (regardless of Load Balancing configuration). If this Outbox is that of the Load Balancing Master and the message was distributed to a Slave unit, it displays "Slave#" (where # is 1 thru 4).

User

Displays the user name of the account that sent the message.

To

Shows the numbers or groups to which the message is sent.

SMS

Display the text sent in the message.

Date

Shows the day the message was sent.

Time

Displays the time the message was sent.

Note: For messages in the Outbox to have a valid date/time stamp, be sure to set up one of the following options:

- SNTP Client must be enabled and the Ethernet connection must be live to the Internet.

-or-

- Enter the iSMS cellular phone number on the **Network Setup > Cellular Modem** window.

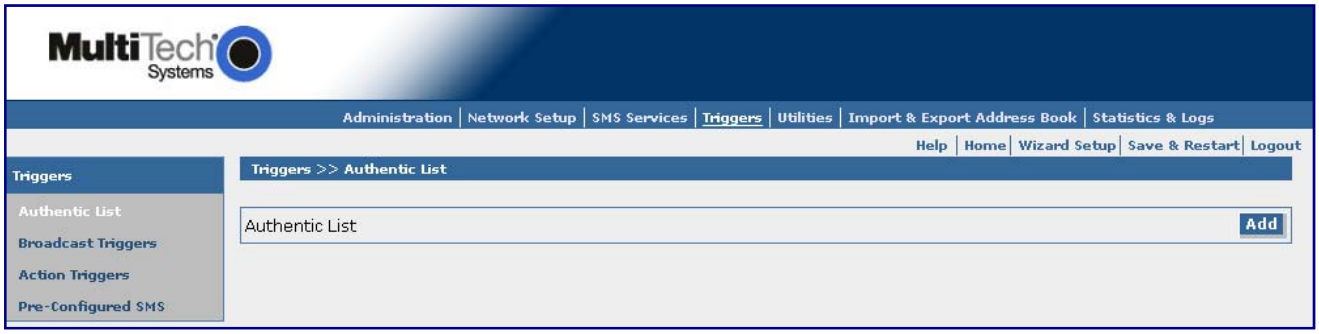
Triggers

Use the four Triggers windows to:

- Establish a list of users who are authorized to trigger a broadcast.
- Set up broadcast triggers.
- Set up action triggers.
- Compose and save pre-configured messages.

Triggers > Authentic List

Use this window to set up a list of users who are authorized to trigger a broadcast. This list is made up of entries found in the Address Book. This list is used by the Broadcast Trigger setup menu when the Broadcast Trigger option "Authenticate" is enabled.


MultiTech Systems
Administration | Network Setup | SMS Services | Triggers | Utilities | Import & Export Address Book | Statistics & Logs
Help | Home | Wizard Setup | Save & Restart | Logout
Triggers
Authentic List
Broadcast Triggers
Action Triggers
Pre-Configured SMS
Triggers >> Authentic List
Authentic List
Add

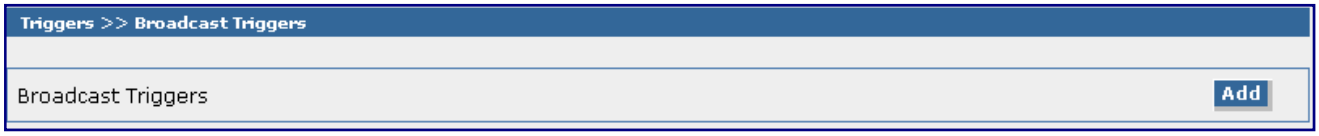
Authentic List

Click **Add** to display the Address Book from which you can select users who are added to the Authentic List..

Note: Without a populated Address Book, no users can be added to the Authentic List.

Triggers > Broadcast Triggers

Use this window to set up Broadcast Triggers. A Broadcast Trigger is a function of the MultiModem iSMS server. When a Trigger message (code or word) is received from a cellular phone or mobile end point, the MultiModem iSMS server responds by sending a predefined Broadcast message (SMS) to a predefined group of recipients (Address Book entries and Group). The Broadcast Message is also sent to the sender of the trigger, indicating the trigger was received and the broadcast invoked.

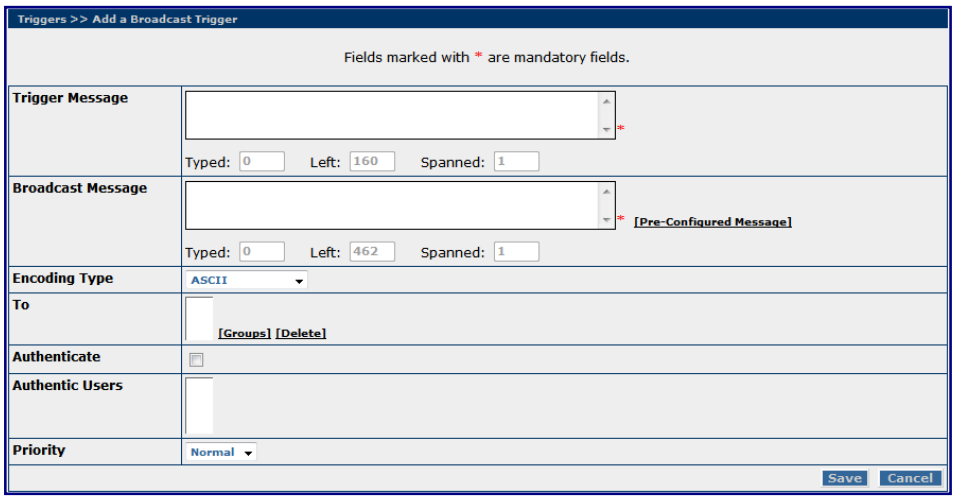


Broadcast Triggers

Click **Add** to display the Add a Broadcast Trigger window.

Add a Broadcast Trigger

Note that the fields marked with an asterisk are required. This is a setup window; no messages are sent from this window.



Trigger Message

Type in a code or word that triggers the sending of the Broadcast Message.

Broadcast Message

Type in a message that is broadcast when the trigger code or word is received, or click **Pre-Configured Message** if you want to use one of these messages as your broadcast message.

Encoding Type

Select the encoding type: ASCII, Extended ASCII or Unicode. This applies to both the Trigger Message and the Broadcast Message. The received trigger message must be encoded in the same format as specified in the Broadcast Trigger, otherwise the trigger does not match and the broadcast message is not sent. Default is ASCII.

To

Select the Groups who receive this broadcast message. Click **Groups** to display your list of group choices. If desired, you can later highlight the name of a group and click **Delete** to remove a group from the list.

Authenticate

Check the **Authenticate** box if you want this trigger code or word and the broadcast message to be managed by the authentication function. If this option is not enabled (unchecked), upon receipt of the Trigger Message the broadcast is initiated.

When this option is enabled, the sender of the Trigger Message (phone number) is verified to be listed as an "Authentic User" before the broadcast is initiated. If the Sender is not Authentic, the broadcast is not performed.

Authentic Users

Select the Authentic Users who are allowed to trigger a broadcast message.

Priority

Select a priority level from Low, Normal or High. Default is Normal.

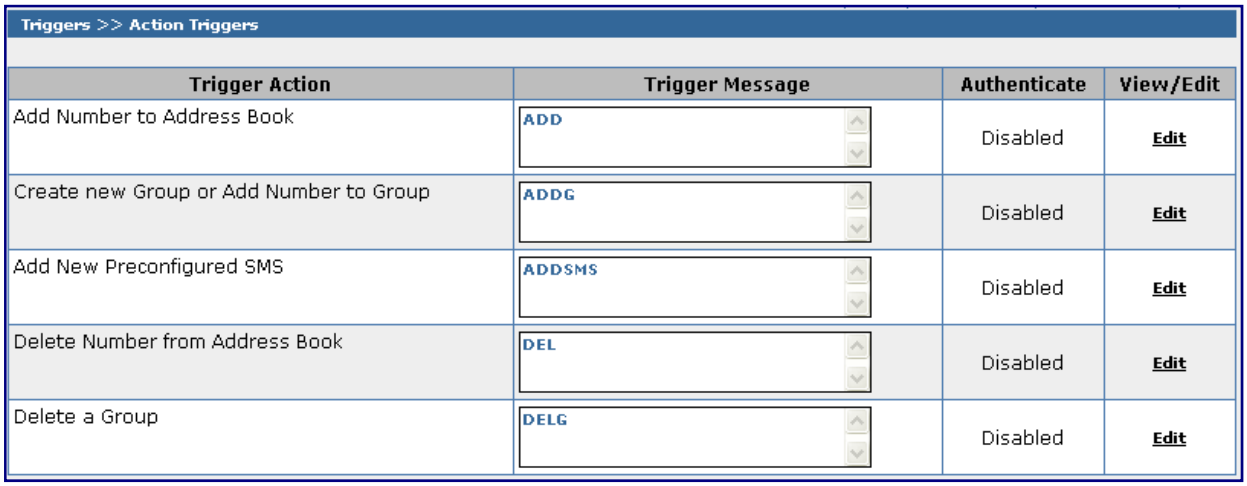
Save or Cancel

Click **Save**, or if you change your mind and do not want the information saved, click **Cancel**.

Triggers > Action Triggers

Action Triggers are the codes or words sent from a remote cell phone and received by the MultiModem iSMS – the trigger executes the action associated with it. This is a setup window; no messages are sent from this window.

The trigger codes or words along with the authentication function may be configured for each trigger action. If authentication is enabled, only the trigger code or word received from an **authenticated** user can trigger the action.



Trigger Action – The action is executed when a properly formatted Trigger Message is received.

Trigger Message (Codes or Words) – The window shows the default Trigger Message for each Trigger Action. The code or word (Trigger Message) used to invoke the specific action can be changed by clicking on the Edit option for each Trigger Action. See the table on the next page for an explanation of how the trigger codes and their associated actions are used.

Authenticate – If the authenticate option is enabled, only the message received from the configured authenticated user can trigger the action. The authenticated users are set up on the **Triggers > Authentic List** window.

Enable Authentication

To enable authentication click **Edit**. The **Authenticate** column then displays a check box, and the **View/Edit** column displays the words **Save** and **Cancel**.

Click the check box to enable Authentication for this action and then click **Save**. If you want to disable Authentication for this action, simply click **Cancel**.

Table of Trigger Codes and Trigger Actions

Trigger Code/Word	Objective	Configuring the Trigger Code and Its Associated Trigger Action	Action
ADD	To add an entry in the address book	Configuration format: <act_tri_configured>;name;number Example: ADD;joe smith;7635554174	Adds name with number to address book.
		Configuration format: <act_tri_configured>;name Example: ADD; joe smith	Adds name with sender's number to address book.
		Configuration format: <act_tri_configured> Example: ADD	Adds name and number of sender to address book.
ADDG	To add a group name and an entry. Note: The same action trigger message is used for creating a group name and adding an entry to a group. So, in the interface there is one configuration for both.	Configuration format: <act_tri_configured>;grp_name Example: ADDG;Building_201	Creates a group with a group name.
		Configuration format: <act_tri_configured>;grp_name;name; number Example: ADDG;Building_201;joe smith;7635554174	Adds name with number to a group. Group must already exist.
		Configuration format: <act_tri_configured>;grp_name;name; Example: ADDG;Building_201;joe smith	Adds name to a group. Group must already exist.
ADDSMS	To add a pre-configured SMS	Configuration format: <act_tri_configured>;SMS Example: ADDSMS;Building 201 is closed until further notice.	Adds SMS to preconfigured list.
DEL	To delete an entry from the address book	Configuration format: <act_tri_configured>;name;number Example: DEL;joe smith;7635554174	Deletes name with number from the address book.
		Configuration format: <act_tri_configured>;name Example: DEL;joe smith	Deletes all entries with this name from the address book.
DELG	To delete a group	Configuration format: <act_tri_configured>;grp_name Example: DELG;Building_201;joe smith	Deletes the group with the group name.

Triggers > Pre-Configured SMS

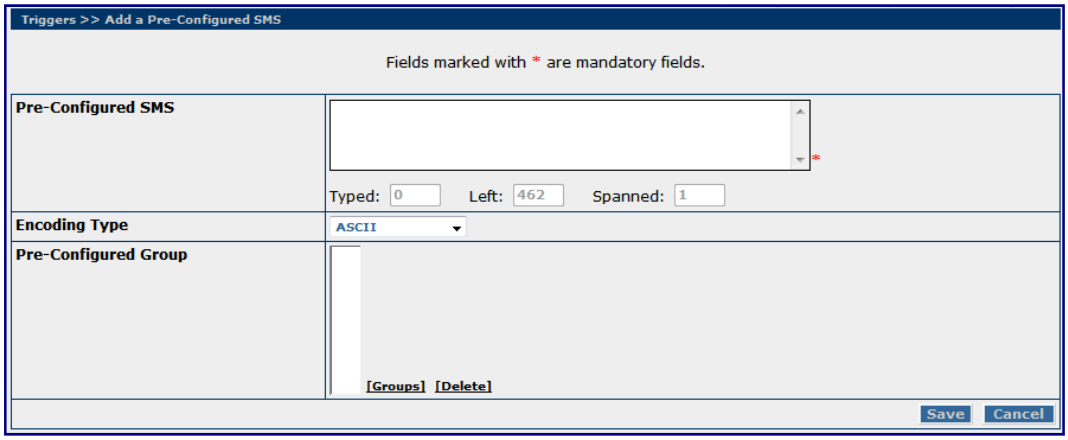
Use this window to compose and save pre-configured messages.

Pre-Configured SMS

Click **Add** to open the Add a Pre-Configured SMS window.

Add a Pre-Configured SMS

An asterisk indicates a required field.



Pre-Configured SMS

Enter the text for your Pre-Configured SMS Message.

Encoding Type

Select the encoding type to be used from ASCII, Extended ASCII or Unicode. Default is ASCII.

Pre-Configured Group

Select the groups to receive this pre-configured message. Click **Groups** and select the desired groups. If you change your mind about a group, highlight the group and click **Delete** to remove it from the list. Note that a message can contain only 160 characters including spaces and punctuation.

Save or Cancel

Click **Save**, or if you change your mind and do not want the information saved, click **Cancel**.

Save & Restart

IMPORTANT Note About Saving System Settings

When you have completed entering your MultiModem iSMS settings and you are not going to enter any more configuration data, you must go to the Save & Restart menu and perform a Save to Flash. Saving to the Flash Memory saves the new settings in the flash prom and prevents the settings from getting lost at the next power up.

Save

Click Save to save your **system settings** to the flash memory.

Restart is Optional

This is optional. You do not have to restart the MultiModem iSMS after saving to the flash memory.

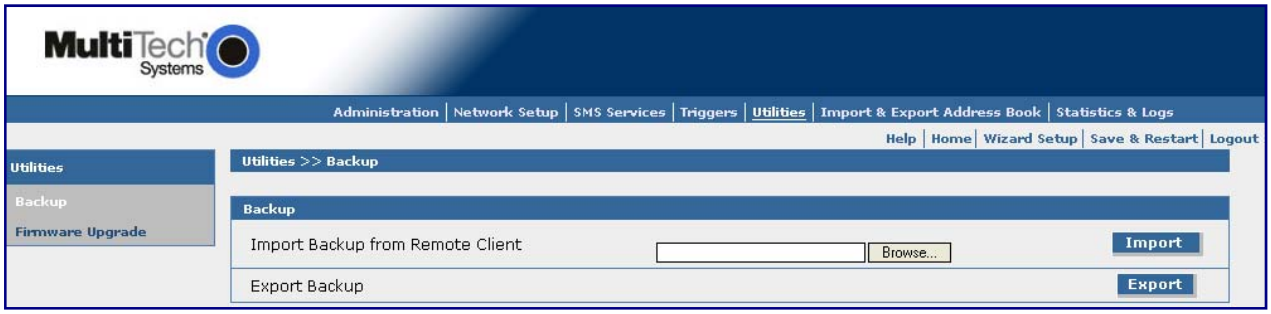
Utilities

Utilities > Backup

The Backup window has two functions. First, it lets you save all MultiModem iSMS configuration files into one file for storing externally (Export Backup). Second, it is used to import and apply a configuration backup file (Import Backup from Remote Client). You may want to import a configuration backup for ease of configuring new units, or to restore a previously known good configuration to a unit under test.

A backup file is a **.tar** file that includes the Address Book, Groups and */var/config/* folder (which includes the unit's IP network settings).

Note: Only apply (import) a backup file to a MultiModem iSMS unit that is the same model number and firmware version as the unit that created (exported) the backup file. Be careful not to create an IP address conflict on your LAN. Two or more units cannot be on the same LAN with the same configuration applied.


MultiTech Systems
Administration | Network Setup | SMS Services | Triggers | Utilities | Import & Export Address Book | Statistics & Logs
Help | Home | Wizard Setup | Save & Restart | Logout
Utilities
Backup
Firmware Upgrade
Utilities >> Backup
Backup
Import Backup from Remote Client
Browse...
Import
Export Backup
Export

Backup

Import Backup from Remote Client

Use this section of the window to import a previously exported configuration backup file. Click **Browse** to locate the file. Then click **Import** to restore the MultiModem iSMS configuration from this backup file. The configuration file is uploaded to the MultiModem iSMS and the saved configuration is restored.

Export Backup

Use this section of the window to create a backup file of the unit's current configuration. Click **Export** to save the configuration file to a location of your choice. The file created is a **.tar** file with its name based on the model type and the time and date of when the export was invoked.

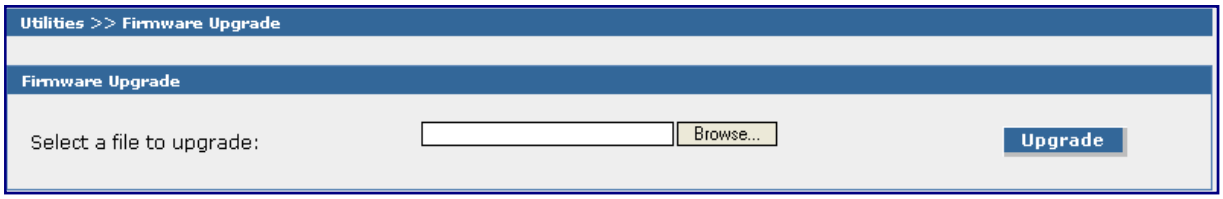
Utilities > Firmware Upgrade

Use this feature to upgrade the firmware on the MultiModem iSMS to the latest version. You can download Multi-Tech firmware upgrades from Multi-Tech website.

Before upgrading the unit's firmware:

- Save to Flash and then reboot the iSMS server.
- Back-up the unit's configuration.
- Stop using the iSMS Server while it is being upgraded. The upgrade process requires the Send API functions within the iSMS server be disabled.

Caution: It is recommended that the firmware upgrade be done locally, invoked from a workstation on the same subnet and LAN that the iSMS is on. It can be helpful to watch the unit's STATUS LED and Ethernet LEDs during the upgrade process.



Firmware Upgrade

Select a File to Upgrade

1. Click browse to locate the latest firmware version.
2. Click **Upgrade** to start the download.

Note for 1-Port versions only: If the firmware upgrade *.bin* file you have downloaded begins with "*SF100*..." you need to rename that portion of the file to "*SMSFinder*..." for the unit to recognize it as a viable upgrade file.

The MultiModem iSMS reboots automatically after the firmware upgrade.

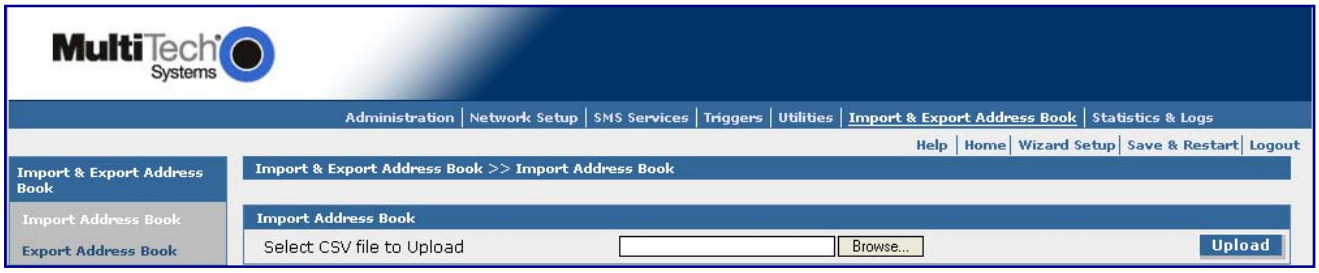
Import & Export Address Book

Import & Export Address Book > Import

Use this window to import contact information from a CSV formatted file. The process allows you to select which fields (values) in the CSV file to import. Duplicate records—where all values of the record are identical to the existing record found in the unit's Address Book— are not imported. After performing an Import, be sure to perform a "Save to Flash", otherwise the new Address Book entries are lost after a system restart.

Note: CSV stands for *comma separated values*, a term that applies to the format of an address book. The CSV file to be imported cannot have more than 10 fields (values) per record (line).

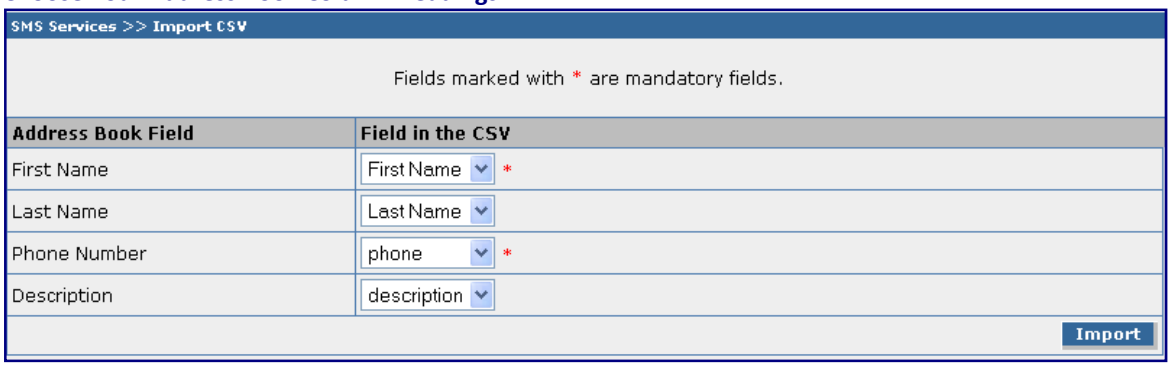
Import Address Book


MultiTech Systems
Administration | Network Setup | SMS Services | Triggers | Utilities | Import & Export Address Book | Statistics & Logs
Help | Home | Wizard Setup | Save & Restart | Logout
Import & Export Address Book
Import Address Book
Export Address Book
Import & Export Address Book >> Import Address Book
Import Address Book
Select CSV file to Upload
Browse...
Upload

Select the CSV File

Browse for the address file you want to use, and then click **Upload**. The window displays 'Please Wait while the CSV "File" is Uploaded'. This window appears quickly (this is the actual upload of the file to the MultiModem iSMS Server). When the transfer is complete the next window displays 'Please Wait while "CSV" is Uploaded'. This is displayed while the structure and contents of the CSV file are analyzed. When the analysis is complete the following window appears. The following window helps you select which Field/Values in the CSV file to use (import).

Choose Your Address Book Column Headings



Address Book Field and Field in the CSV

The four items in the Address Book Field column make up one entry (record) in the unit's Address Book. The column on the right (Field in the CSV) is used to select which fields (values) in the CSV file you want to associate with the Address Book fields on the left. The options listed in the drop down boxes are derived from the column headings (1st row) in the CSV file.

For each drop down box, select a Value that matches closest to the Address Book Field on the left. Each drop down box must select a different value (column heading). Then click **Import**.

In the example that follows, the selected column headings are First Name, Last Name, Phone, and Description in this order.

Example: Excerpt from a .CSV File

First Name,Last Name,phone,description

first1,last1,17633604174,Parent

first2,last2,17633604174,Parent

first3,last3,17633604174,Student

first4,last4,17633604174,Teacher

first5,last5,17633604174,Supplier

first6,last6,17633604174,Newspaper

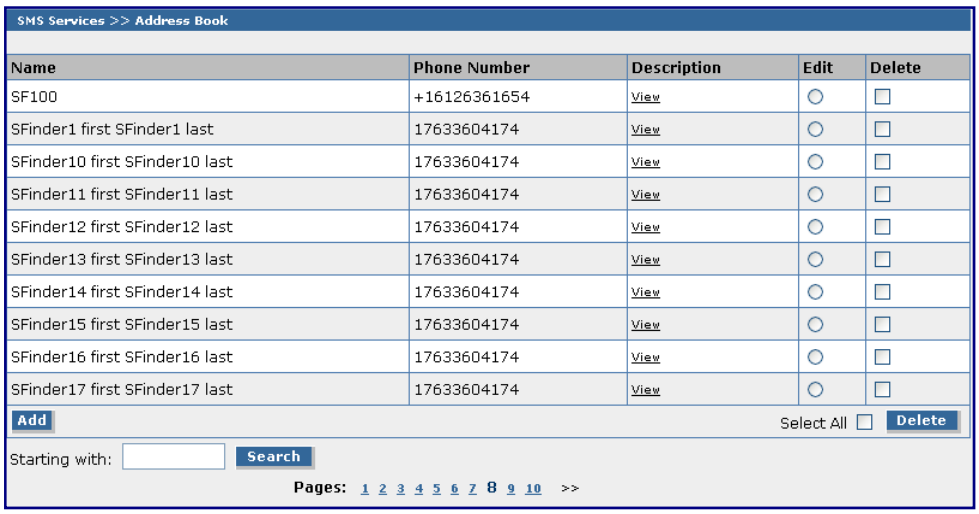
first7,last7,17633604174,Photographer

Note: If you plan to use authentication on any entry in the address book, enter the phone numbers of these individuals exactly as how the Cellular Network presents Sender Number information (usually that is with a **+** symbol followed by the country code and then area code). Please see NOTE in the Address Book section of this guide. This allows authentication to work properly by allowing the MultiModem iSMS box to successfully match the cell phone number of a received trigger message with the phone number in the Authentic List.

Example of an Imported Address Book

Exception: The first entry was entered remotely with a trigger message. Note that remotely sent numbers have a "+" in front of the number. The other entries were added by the import process. The Phone Number values in the CVS file did not include a **+** symbol with the numbers.

Address Book


SMS Services >> Address Book
Name
Phone Number
Description
Edit
Delete
SF100 +16126361654 View
SFinder1 first SFinder1 last 17633604174 View
SFinder10 first SFinder10 last 17633604174 View
SFinder11 first SFinder11 last 17633604174 View
SFinder12 first SFinder12 last 17633604174 View
SFinder13 first SFinder13 last 17633604174 View
SFinder14 first SFinder14 last 17633604174 View
SFinder15 first SFinder15 last 17633604174 View
SFinder16 first SFinder16 last 17633604174 View
SFinder17 first SFinder17 last 17633604174 View
Add
Select All
Delete
Starting with:
Search
Pages: 1 2 3 4 5 6 7 8 9 10 >>

After the Address Book has been imported, you can **Add** a new entry, **Edit** an entry, **Delete** an entry, and **Search** for an entry.

Add

To add a new entry, click **Add**. The **SMS Services > Add a Phone Number** window displays on which you can enter the new number.

Edit

To edit an entry, click the corresponding **Edit** in line with the entry you want to edit. The window turns to edit mode.

Delete

To delete an entry, place a check in the **Delete** box in line with the entry or entries you want to delete. Then click **Delete**. Note that you can select all entries to be deleted at one time instead of checking each entry; simply check **Select All** and then click **Delete**.

Search

To search for an entry, type in the beginning letters of a name. Then click **Search**.

You can enter a new starting point at anytime, if your search does not yield the results you wanted.

Import & Export Address Book > Export

Use this window to export the contents of the MultiModem iSMS Address Book. The export creates a CSV file with 4 fields (values) per record: *Firstname,Lastname,Description,Phone-Number.*

This **.csv** file is then '*tarred*' and zipped.

The created **.csv** file is ideal for importing it into a different MultiModem iSMS server. It can also be imported by any other application that supports .**csv** formatted files (e-mail programs, business applications, etc.).

Note: Ensure the browser you are using to view the MultiModem iSMS has pop-ups enabled, so information windows can appear when necessary.

Export Address Book

Export Address Book

Click **Export** to save the address book of this MultiModem iSMS to the workstation that is accessing the MultiModem iSMS. The address list is saved in the following format (a zipped-up file):

.tar.gz

The CSV file is saved with four columns labeled First Name, Last Name, Description, and Phone.

Save & Restart

IMPORTANT Note About Saving System Settings

When you have completed entering your MultiModem iSMS settings and you are not going to enter any more configuration data, you must go to the Save & Restart menu and perform a Save to Flash. Saving to the Flash Memory saves the new settings in the flash prom and prevents the settings from getting lost at the next power up.

Save

Click Save to save your **system settings** to the flash memory.

Restart is Optional

This is optional. You do not have to restart the MultiModem iSMS after saving to the flash memory.

Statistics & Logs

Statistics & Logs > System Information

The System Information window provides the following information:

System Information

- Product Model Number
- Firmware Version
- MAC Address
- Entries in the Address Book

Live Details

- Date and Time
- System Uptime
- Memory Utilization

Statistics & Logs > SMS Statistics

The SMS Statistics window provides the following information by individual modem:

SMS Statistics (SF 400/800 can select modem number):

SIM Status - Indicates the presence of a SIM card and if the modem port is enabled or disabled.

Signal Strength - See Signal Strength section in Chapter 2.

Messages in Inbox - The number of messages received by the modem since the MultiModem iSMS server booted up.

Messages Sent - The number of messages sent by the modem since the MultiModem iSMS server booted up.

Rate of Sent Messages: This is the number of messages sent per minute. This counter reflects live activity. If the modem has not sent a message in over 60 seconds, the value is zero. The average number of messages sent from the MultiModem iSMS is about 7 a minute. These rates are affected by the size of each message and the amount of network congestion.

Rate of Received Messages: This is the number of messages received per minute. This counter reflects live activity. If the modem has not received a message in over 60 seconds, the value is zero. The average number of messages received by the MultiModem iSMS is about 5 a minute. These rates are affected by the size of each message and the amount of network congestion.

Note: The Triggers Statistics and Job Statistics windows provide system totals (not per port) for the listed events.

Trigger Statistics

Broadcast Triggers Configured

Broadcast Triggers Received

Action Triggers Received

Job Statistics

Entries in Outbox

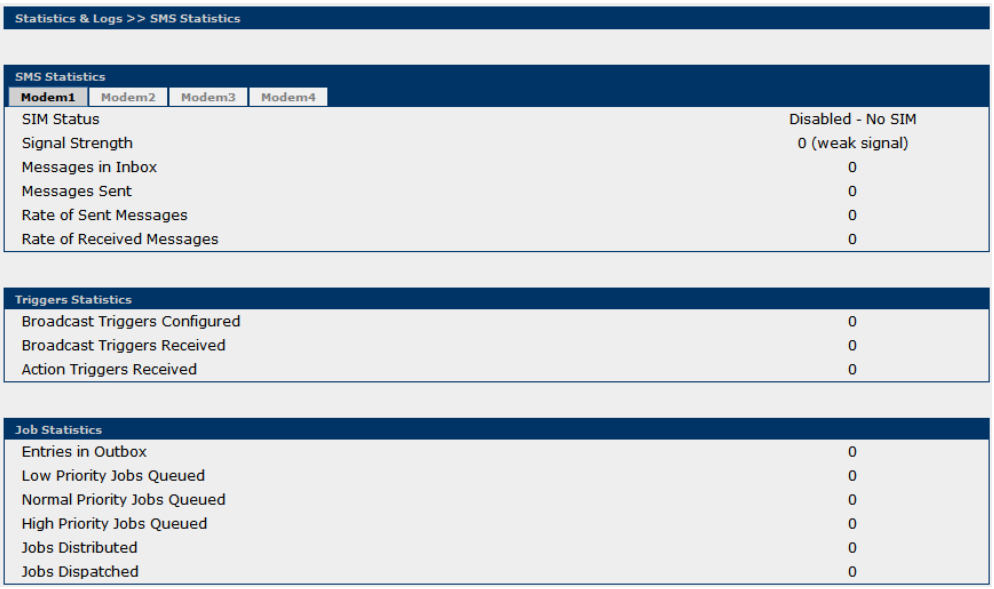
Low Priority Jobs Queued

Normal Priority Jobs Queued

High Priority Jobs Queued

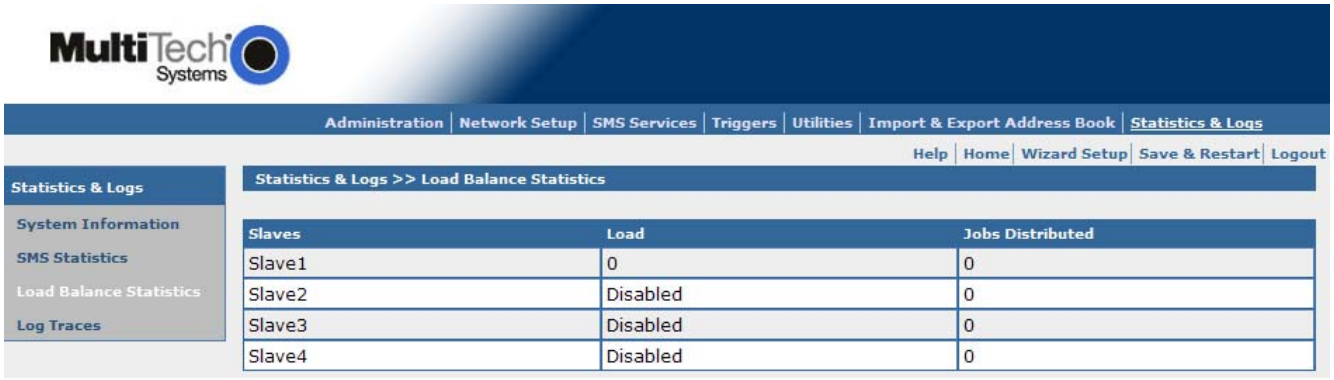
Jobs Distributed

Jobs Dispatched



Statistics & Logs > Load Balancing Statistics

When load balancing is set up with multiple units, this section is populated with statistics corresponding to the workload shared.



Load Balancing Statistics

Slaves

List of possible slave units.

Load

Load for specific slave unit, or 'Disabled' for units not participating in load balancing.

Jobs Distributed

The number of jobs that have been given to the specific unit.

Statistics & Logs > Log Traces

The Log Traces window provides detailed information about SMS messages, API functions, and the SMS system per modem:

SMS Logs (Sent, Received, Failure, Live)

Send API Logs (Status, Failure, HTTP API Live, TCP API Live)

Receive API Logs (Live, Failure)

Load Balance Logs

System Logs

The number of logged messages depends on the amount of memory. Typically, the log can store information for about 500+ messages.

To View Logs

Click **Show** to view the desired Log for the modem number selected from the tabs above.

Chapter 5 – Using the Non-Administrative User Interface

This chapter covers the Web Interface available to non-administrative users. Non-administrative users have access to the Send SMS menu and an Outbox tied to their account. Users browse to the address of the MultiModem iSMS, login using the name and password created by the administrator and can then send messages from the SMS Services > Send SMS window.

Note: The Administrator uses the **SMS > Send SMS Users** window to identify and set up users.

Web Interface Available to Non-Administrative Users

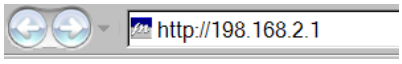
The only windows available to users are the following **SMS Services** windows:

- Send SMS
- Outbox

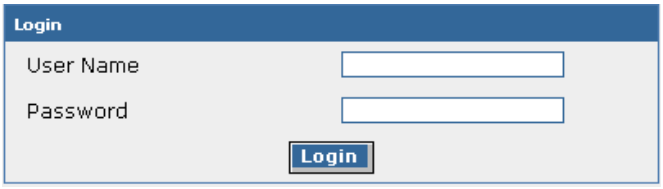
How Non-Administrative Users Login

Note: Be sure that the MultiModem iSMS is cabled and that the power is connected as shown in Chapter 2.

1. Open a Web browser on the PC.
2. Type in the address of the MultiModem iSMS (resolvable name or IP address):
   http://192.168.2.1



3. The Login window for the MultiModem iSMS displays.

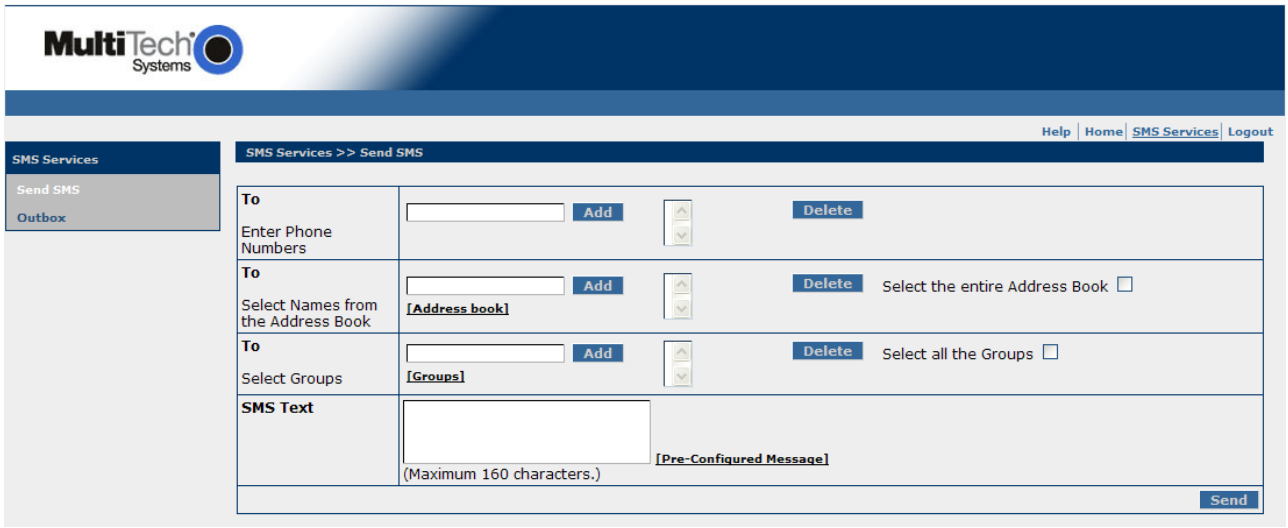


   Users must type their names the way the administrator entered them on the **SMS Services > Send SMS Users** window.

   Users must type the passwords created for them by the administrator on the **SMS Services > Send SMS Users**.

4. Click **Login**. The SMS Services > Send SMS window displays.

SMS Services > Send SMS



This is the window from which users send SMS text messages (original text or pre-configured messages). The window options here are the same options available to the administrator.

SMS Services > Outbox

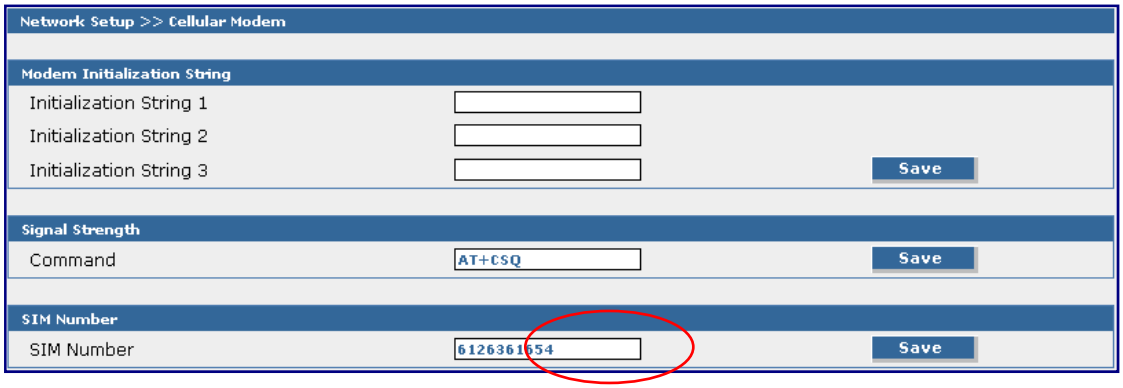
This window is also available to users. It lists the SMS text messages sent. The list includes the receiver's number, the message sent, and a timestamp.

Chapter 6 – SMS Examples

Verifying the SIM Card is Installed and Activated

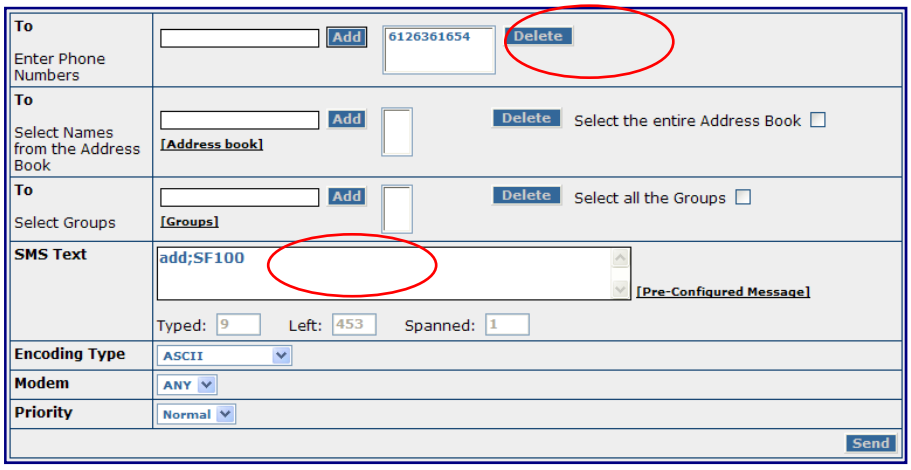
To verify that the SIM is installed correctly and that it is activated.

1. Power up the MultiModem iSMS. Wait until the Status LED and the LS LED are blinking before continuing. Make sure all setup procedures and connections have been made. See Chapter 2.
2. Open the Web browser, enter the IP address, and login to the MultiModem iSMS. See Chapter 3.
3. Go to the Network Setup > Cellular Modem window.



   a. Enter the phone number of your SIM card. Example: 6126361654.

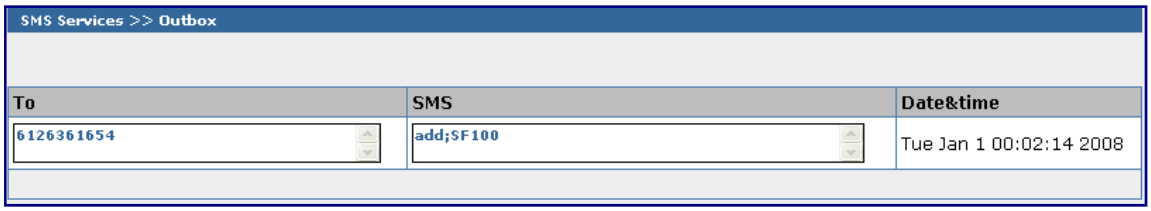
4. Click **Save**.
5. Click **Save & Restart** under the Menu Bar. Select **Save**. **Note:** You do not have to restart the MultiModem iSMS.
6. Send a text message to yourself. Do this on the **SMS Services > Send SMS** window.



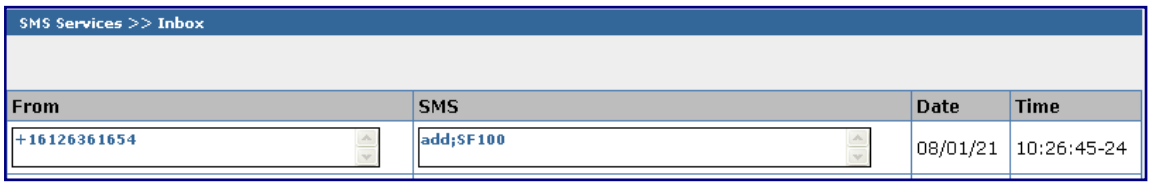
   a. **To – Enter Phone Numbers –** Enter the SIM phone and click **Add**. The phone number displays in the box to the right.

7. **SMS Text –** Enter an SMS Text message. The format **add;SF 100** is a trigger message word that tells the MultiModem iSMS to add the phone number and name to the address book. Notice the use of the semicolon in this message.
8. Click **Send**. The following message displays: Your request is being processed.
9. Click **OK**.

10. Check the **Outbox** and observe that the message was sent.

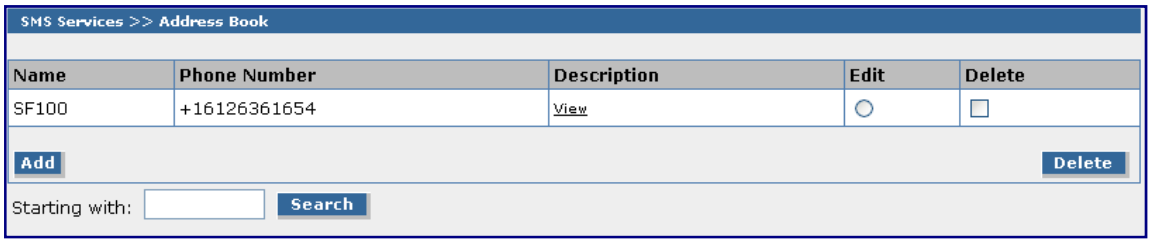


11. Check the **Inbox** and observe that the message was received. This verifies that the cellular modem is functioning.



Note: Sometimes you may have to refresh this window and wait several minutes for the cellular provider to deliver the message.

12. Go to the **SMS Services > Address Book**. Observe that the trigger SMS text message was processed and the name and phone number were added to the address book.

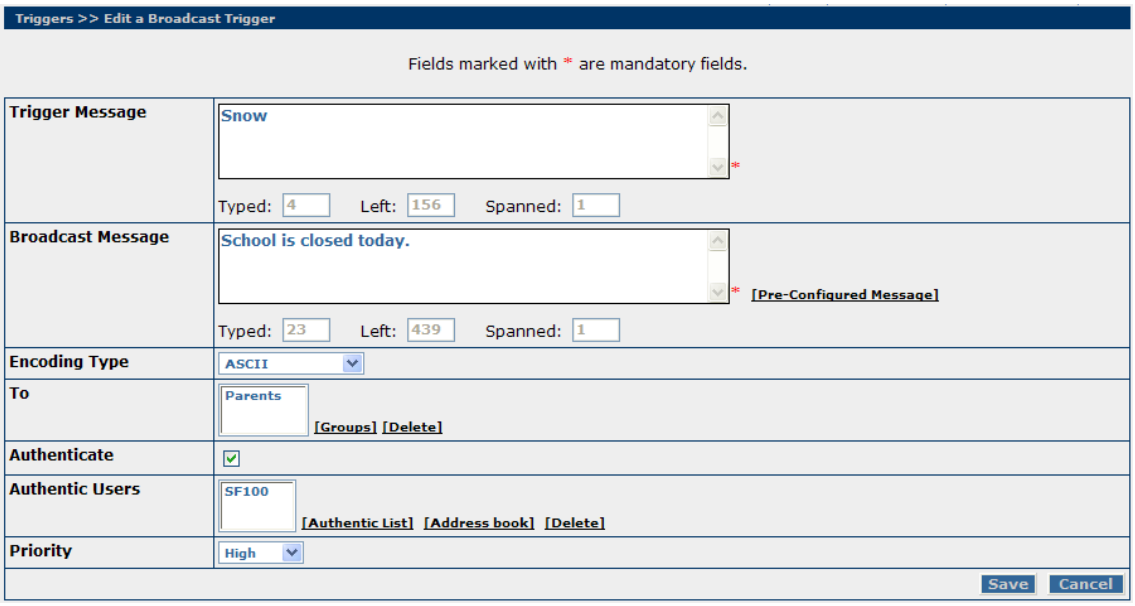


Note: The phone number is entered with a "+1" in front of it. This indicates the address phone number was entered into the address book using a trigger message.

Creating a Broadcast Message for Future Use

In this example a school wants to be prepared to send a message that school is closed for the day. The Administrator creates a **Trigger Message** word ***Snow*** and the following **Broadcast Message:** ***School is closed today***. This example assumes that a **Group** called ***Parents*** has been created and that ***SF 100*** stands for the Administrator's cell phone number.

1. Go to the Triggers > Add a Broadcast Trigger window.

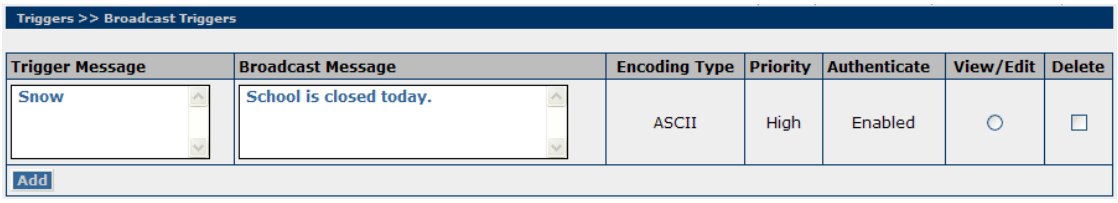


   a. Enter ***Snow*** in the Trigger Message word box. Trigger message words or codes are not case-sensitive.

2. Enter the Broadcast Message. In this case the message is ***School is closed today.***
3. Select the **Group** that receives this message. In this case the group is ***Parents***.
4. Check the **Authenticate** box to indicate that this message can be sent by an authenticated user only.
5. The **Authentic User** selected to trigger this message is ***SF 100***, the Administrator's cell phone.

Note: If you plan to use authentication on any entry in the address book, enter the phone numbers of these individuals exactly as how the Cellular Network presents Sender Number information (usually that is with a **+** symbol followed by the country code and then area code). Please see NOTE in the Address Book section of this guide. This allows authentication to work properly by allowing the MultiModem iSMS box to successfully match the cell phone number of a received trigger message with the phone number in the Authentic List.

6. Select a **Priority** level (in this case, High was selected).
7. Click **Save**. The following window displays the Broadcast Message saved for future use.



8. To trigger the broadcasting of this message to the **Parent** group, the administrator sends the SMS text message word ***Snow*** from his cell phone to the MultiModem iSMS. When the MultiModem iSMS receives this message, it compares the Administrator's cell phone number with the Authentication List and if they match, it broadcasts the message to everyone in the **Parent** group.

Appendix A – Application Programming Interface (API)

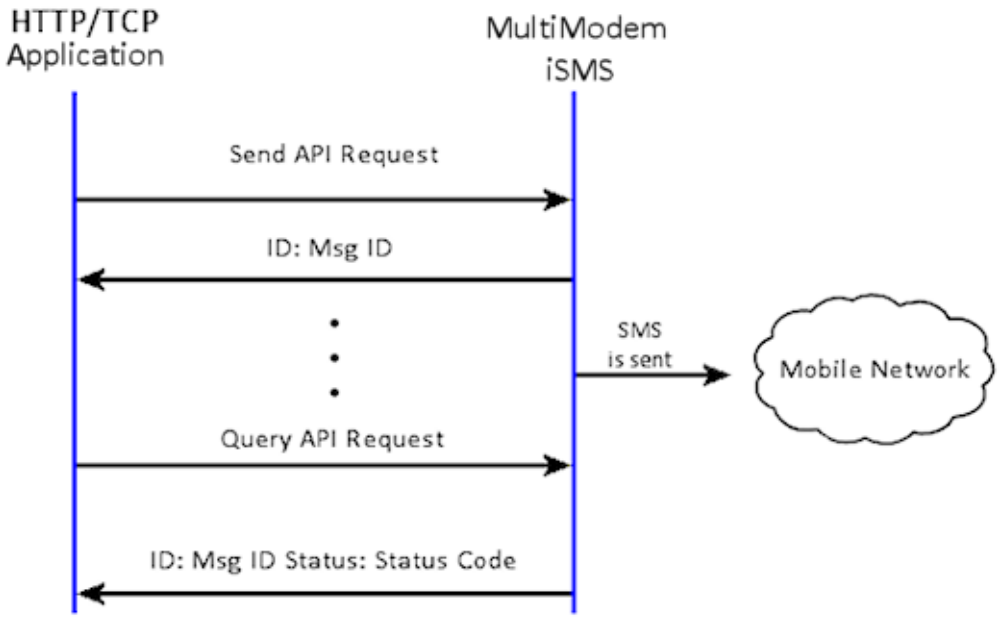
This appendix defines the Application Programming Interface (API) provided for sending and receiving SMS through the MultiModem iSMS. Use the API to integrate the MultiModem iSMS Send and Receive SMS capability into your custom application.

APIs are defined to send and receive SMS using HTTP or TCP protocols. The packet formats and handshakes are provided in the next section "Send SMS API".

Acronyms and Definitions

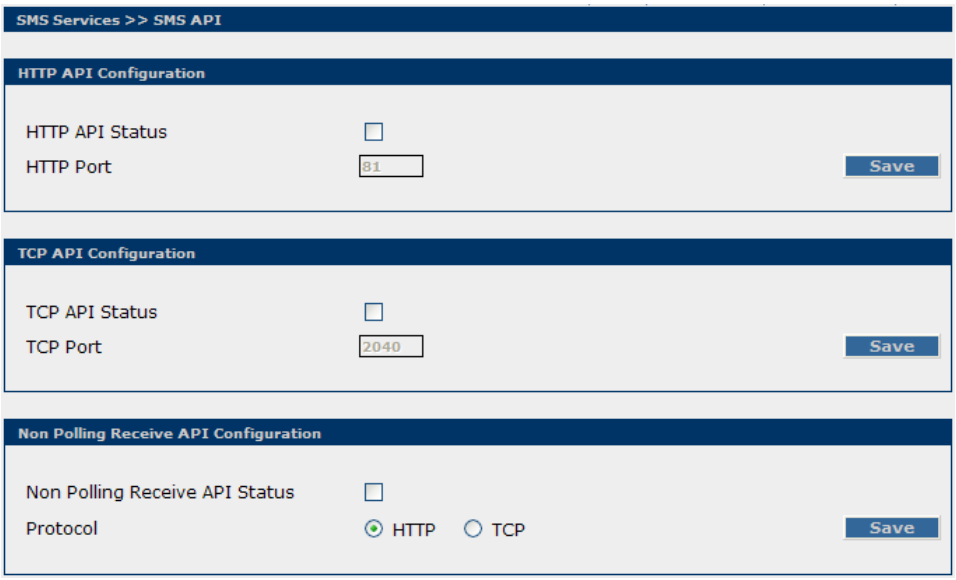
Acronyms	Definitions
API	Application Program Interface
HTTP	Hypertext Transfer Protocol
SMS	Short Message Service
TCP	Transport Control Protocol

SMS API



HTTP API

This section describes how to configure the "HTTP Send API" by using the MultiModem iSMS web admin interface.



HTTP Send API Status:

Enable “HTTP Send API Status” to send SMS / query status using HTTP API.

By default, HTTP Send API is disabled.

HTTP Port:

Configure the port to service the HTTP Send API.

Default is 81

HTTP Send API Format

Each "HTTP Send API Request" consists has four parts:

- The first part is the destination, that is, the MultiModem iSMS IP and HTTP port number.
- The second part is the API call which is the query; therefore, it has a '?' post-fixed to the call.
- The third part is for authentication, which is in the form of a username and password.
- The fourth part is the message parameters.

MultiModem iSMS IP Parameters	Call	Authentication	SMS

```
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=puser1&cat=1&to="7634567765"&text=message
```

Where: portnumber is optional.

modem is optional

user1, puser1, 7634567765 and message are variables / configured parameters.

Note: The MultiModem iSMS can be accessed ONLY from the preconfigured allowed networks.

Example: To access the MultiModem iSMS 204.26.122.125 from 125.63.78.44, you MUST add the network 125.63.78.0 to the following MultiModem iSMS window: **Admin Access >> Allowed Networks**

When HTTP Send API is enabled, it is also possible to send SMS from a non-browser with a TCP connection to the configured HTTP Port by following the steps below:

- Initiate a raw TCP connection to the MultiModem iSMS IP address over the "HTTP Send API" port
- Example : telnet 192.168.2.1 81
- Issue GET command to send SMS.
- Issue GET command to query the status of send SMS.

Send API Format

```
GET
/sendmsg?user=admin&passwd=admin&cat=1[&enc=0][&priority=1][&modem=2]&to=5645676543&ton=Graham&group=Engineering&text=This%20is%20a%20test%20message.^M^J
```

-or-

```
GET
/sendmsg?user=admin&passwd=admin&cat=1[&enc=1][&priority=2][&modem=0]&to=%225678976543%22&ton=%22Bob%22&group=%22Engineering%22&text=This%20is%20a%20test%20message.^M^J
```

Query API Format

```
GET /querymsg?user=admin&passwd=admin&apimsgid=message id.^M^J
```

Note: All special characters must be given in URL encoded format with hex value. For example give space as %20; double quotes as %22.

Example: If a name is Graham Bell, give it as **Graham%20Bell**

Authenticating API Requests

The system needs to authenticate any API request. As such, the authentication credentials are included in the "Send SMS URL" or “Send SMS TCP” command.

user - The username of the account, which has a maximum of 50 bytes.

passwd - The password of the account, which has a maximum of 50 bytes.

This user is Admin or the configured Send Users.

Ensure that every "Send SMS URL" has the username and password, and every request is authenticated by the MultiModem iSMS.

Sending to a Number

HTTP API format is:

```
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=puser1&cat=1[&enc=0]
[&priority=1][&modem=1]&to=”7657867765”&text=message
```

The parameters are:

Parameter	Description
cat	Category **1 -** Send SMS **2 -** Broadcast Trigger **3 -** Action Trigger
enc	Encoding type to send SMS(Optional field) **Range:** 0 to 3 0 - SMS text is in ASCII form 1 - SMS text in Extended ASCII form 2 - SMS text in hexadecimal form. Each hexadecimal value length is maximum 4 and each hexadecimal value is separated by a semi-colon. Example: 0645;41;646. 3 - SMS text is in decimal form. Each decimal Value length is maximum 5. Use a semi-colon to separate each decimal value. Example: 1605;65;65300. The maximum decimal value allowed is 65535 If **enc** is not specified in the send API request, default enc is the configured settings in SMS settings page. Examples enc=2, if Unicode is enabled. enc=1, if Extended ASCII is enabled. enc=0, if both Extended ASCII and Unicode are disabled.
priority	Priority to send SMS (Optional field) Range: 1 to 3 1 - Low Priority 2 - Normal Priority 3 - High Priority If priority is not specified in the request, default priority is normal.
Modem	Modem index to send SMS. SF 400/800 models only. **Range :** 1 to 4 for SF 400

	1 to 8 for SF 800 0 for any modem (Send API job is distributed using all available modems) If modem is not specified in the request, send API job is distributed using all the available modems.
to	The mobile number where the SMS is delivered. This number is given in double quotes. The maximum size of each recipient's number is 50 bytes.
text	The message text to be sent. Enable *Extended ASCII* in the MultiModem iSMS to send both ASCII and extended ASCII characters. By default, *Extended ASCII* is disabled and the message can have only ASCII characters. **Notes:** If *Extended ASCII and Unicode* are disabled and spanned SMS value is 1, a maximum of 160 characters can be sent. If *Extended ASCII* is enabled and spanned SMS value is 1, a maximum of 140 characters can be sent. If *Unicode* is enabled and spanned SMS value is 1, a maximum of 70 characters can be sent. If the spanned SMS value is more than 1, the maximum number of characters allowed for each encoding scheme is defined as follows (where *n* represents the span value): ASCII – *n* * 154 characters Extended ASCII – *n* * 134 characters Unicode – *n* * 64 characters Any characters entered beyond the allowed limit are truncated.

In the HTTP API format example above: *user1*, *puser1*, *7657867765* and *message* are variables / configured parameters.

Sending to an Address Book Name

The API can be used to send the message to a name in the MultiModem iSMS address book. If the name does not exist in the address book, the message is dropped.

HTTP API format is:

```
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=1
[&enc=0][priority=3][&modem=2]&ton="bob"&text=message
```

-or-

```
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=1
[&enc=2][priority=3][&modem=2]&ton="bob"&text=41;42;645;0645(hexadeci
mal form)
```

-or-

```
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=1
[&enc=3][priority=3][&modem=2]&ton="bob"&text=65;66;67(decimal form)
```

The parameters are:

Parameter	Description
cat	1
enc	Encoding type to send SMS(Optional field) **Range:** 0 to 3 0 - SMS text in ASCII form 1 - SMS text in Extended ASCII form 2 - SMS text in hexadecimal form. Each hexadecimal value length is maximum 4, and each hexadecimal value is separated by a semi-colon. Example: 0645;41;646. 3 - SMS text is entered in decimal form. Each decimal Value length is maximum 5, and each decimal value is separated by a semi-colon. Example: 1605;65;65300. **Note:** Maximum decimal value allowed is 65535. If enc is not specified in the send API request, default enc is the configured settings in SMS settings page. enc=2, if Unicode is enabled. enc=1, if Extended ASCII is enabled. enc=0, if both Extended ASCII and Unicode are disabled
priority	Priority to send SMS(Optional field) **Range:** 1 to 3 1 - Low Priority 2 - Normal Priority 3 - High Priority If priority is not specified in the request, the default priority is normal.
modem	Modem index to send SMS (this is only for the SF 400/800 models) **Range :** 1 to 4 for SF 400 1 to 8 for SF 800 0 for any modem (Send API job is distributed using all the available modems) If modem is not specified in the request, send API job is distributed using all the available modems

To	The name in the address book where the SMS is to be delivered must be given within double quotes. The maximum size of each recipient's name is 50 bytes
Text	The message text to be sent. Enable *Extended ASCII* in the MultiModem iSMS to send both ASCII and extended ASCII characters. By default, *Extended ASCII* is disabled and the message can have only ASCII characters. If Unicode is enabled(if enc is not specified in request), SMS text is only in Hexadecimal form. If *Extended ASCII* and Unicode are disabled and spanned SMS value is 1, a maximum of 160 characters can be sent. If *Extended ASCII* is enabled and spanned SMS value is 1, a maximum of 140 characters can be sent. If Unicode is enabled and spanned SMS value is 1, a maximum of 70 characters can be sent If the spanned SMS value is more than 1, the maximum number of characters allowed for each encoding scheme is defined as follows (where *n* represents the span value): ASCII – *n* * 154 characters Extended ASCII – *n* * 134 characters Unicode – *n* * 64 characters Characters entered beyond the allowed limit are truncated.

Sending to a Group

You can use the API to send SMS to a pre-defined group. The group must exist in the MultiModem iSMS. If the group does not exist, the message is dropped.

HTTP API format is:

```
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=1
[enc=1][priority=1][&modem=4]&group="admin"&text=message
```

-or-

```
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=1
[enc=2][priority=1][&modem=4]&group="admin"&text=41;42;645;0645(hexadecimal
form)
```

-or-

```
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=1
[enc=3][priority=1][&modem=4]&group="admin"&text=65;66;678(decimal form)
```

The parameters are:

Parameter	Description
cat	1
enc	Encoding type to send SMS(Optional field) **Range:** 0 to 3 0 - SMS text is in ASCII form 1 - SMS text is in Extended ASCII form 2 - SMS text is in hexadecimal form. Each hexadecimal value length is maximum 4, and each hexadecimal value should be separated by a semi-colon. Example: 0645;41;646. 3 - SMS text is in decimal form. Each decimal Value length is maximum 5, and each decimal value should be separated by a semi-colon Example: 1605;65;65300. **Note:** Maximum decimal value allowed is 65535. If **enc** is not specified in the send API request, default enc is the configured settings from the SMS settings page. enc=2, if *Unicode* is enabled. enc=1, if *Extended ASCII* is enabled. enc=0, if both *Extended ASCII* and *Unicode* are disabled.
priority	Priority to send SMS(Optional field) **Range:** 1 to 3 1 - Low Priority 2 - Normal Priority 3 - High Priority If priority is not specified in the request, the default priority is normal.
modem	Modem index to send SMS (this is only for the SF 400/800 models) **Range :** 1 to 4 for SF 400 1 to 8 for SF 800 0 for any modem (Send API job is distributed using all the available modems)

	If modem is not specified in the request, send API job is distributed using all the available modems.
Group	The pre-defined group names must be in double quotes. The maximum size of group name is 50 bytes
Text	The message text to be sent. Enable *Extended ASCII* in the MultiModem iSMS to send both ASCII and extended ASCII characters. By default, *Extended ASCII* is disabled, and the message can have only ASCII characters. If *Unicode* is enabled (and if **enc** is not specified in request), SMS text is only in Hexadecimal form. If *Extended ASCII* and Unicode are disabled and spanned SMS value is 1, a maximum of 160 characters can be sent. If *Extended ASCII* is enabled and spanned SMS value is 1, a maximum of 140 characters can be sent. If *Unicode* is enabled and spanned SMS value is 1, a maximum of 70 characters can be sent. If the spanned SMS value is more than 1, the maximum number of characters allowed for each encoding scheme is defined as follows (where *n* represents the span value): ASCII – *n* * 154 characters Extended ASCII – *n* * 134 characters Unicode – *n* * 64 characters Characters entered beyond the allowed limit are truncated.

Sending a Broadcast Trigger Message

You can use the API to send a broadcast trigger message to the MultiModem iSMS.

HTTP API format is:

```
http://192.168.2.1[:portnumber]/sendmsg?user=user2&passwd=user2&cat=2[&enc=0][&modem=5]&text=message
```

-or-

```
http://192.168.2.1[:portnumber]/sendmsg?user=user2&passwd=user2&cat=2[&enc=2][&modem=5]&text=message should be hexadecimal form
```

-or-

http://192.168.2.1[:portnumber]/sendmsg?user=user2&passwd=user2&cat=2[&enc=3][&modem=5]&`text=message should be decimal form`

The parameters are:

Parameter	Description
cat	2
enc	Encoding type to send SMS(Optional field) **Range:** 0 to 3 0 - SMS text should be in ASCII form 1 - SMS text should be in Extended ASCII form 2 - SMS text is in hexadecimal form. Each hexadecimal value length is maximum 4, and each hexadecimal value is separated by a semi-colon. Example: 0645;41;646. 3 - SMS text is in decimal form. Each decimal Value length is maximum 5, and each decimal value is separated by a semi-colon. Example: 1605;65;65300. **Note:** Maximum decimal value allowed is 65535. If **enc** is not specified in the send API request, default **enc** is configured to the settings of the SMS settings page. *i.e.* **enc**=2, if *Unicode* is enabled. **enc**=1, if *Extended ASCII* is enabled. **enc**=0, if both *Extended ASCII* and *Unicode* are disabled
modem	Modem index to send broadcast message **Range :** 1 to 4 for SF400 1 to 8 for SF800 0 for any modem (Broadcast API job is distributed using all the available modems) If modem is not specified in the request, broadcast API job is distributed using all the available modems If modem is specified, broadcast job is sent using the specified modem
text	The trigger message text to be sent. Enable *Extended ASCII* in the MultiModem iSMS to send both ASCII and extended ASCII characters. By default, *Extended ASCII* is disabled, and the message can have only ASCII characters. If *Unicode* is enabled (and if **enc** is not specified in request), SMS text is only in Hexadecimal form. If *Extended ASCII* is disabled, a maximum of 160 characters can be sent. If *Extended ASCII* is enabled, a maximum of 140 characters can be sent.

	If *Unicode* is enabled, a maximum of 70 characters can be sent. Despite the spanned SMS value set, the maximum number of characters allowed in the text field is: 160 for ASCII 140 for Extended ASCII 70 for Unicode Characters entered beyond the allowed limit are truncated. Use the API to send a trigger message to the MultiModem iSMS. If the MultiModem iSMS has a configured broadcast trigger, it sends the broadcast trigger message to the configured recipients.

Sending an Action Trigger Message

Use this API to perform a predefined action.

HTTP API format is:

```
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=3
[&enc=0]&text=message
```

-or-

http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=3[&enc=2]`&text=message should be hexadecimal form`

Example: Configured action trigger for adding preconfigured SMS as 41;42;43 (with enc=2).

Preconfigured SMS to add is 645;646;647;648 (in hexadecimal form).

In an API request, the text field is in the format:

Configured action trigger; Preconfigured SMS

text=41;42;43;;645;646;647;648 (not correct)

text=41;42;43;3a;645;646;647;648 (correct format)

Here **3a** is equivalent hexadecimal value for a semi-colon. Use equivalent hexadecimal value for either semi-colon or colon.

-or-

```
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&
cat=3[&enc=3]&text=message should be decimal form.
```

Example: Configured action trigger for adding preconfigured SMS as 41;42;43(with enc=3).

Preconfigured SMS to add is 645;646;647;648 (in decimal form).

In an API request, the text field is in the format:

Configured action trigger;Preconfigured SMS

text=41;42;43;;645;646;647;648 (not correct)

text=41;42;43;58;645;646;647;648 (correct format)

Here **58** is decimal equivalent value for a semi-colon. Use equivalent decimal value for either semi-colon or colon.

Irrespective of the spanned SMS value set, the maximum number of characters allowed in the text field is:

160 for ASCII

140 for Extended ASCII

70 for Unicode

Any characters entered beyond the allowed limit are truncated.

Examples for action trigger with **enc**=2:

To Add an entry in the Address book:

Configured trigger: 41;42;43 (with **enc**=2)

Name: 61;62;63;64 (abcd)

Phone number: 39;38;38;36;30;39;38;38;36;30 (9886098860)

```
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&
cat=3[&enc=2]&text=41;42;43;3a;61;62;63;64;3a;39;38;38;36;30;39;38;38;36;30
```

Here **3a** is the equivalent hexadecimal for semi-colon. Instead of **3a**, we can use **3b** (equivalent hexadecimal value for colon) also.

To Add a group name:

Configured trigger: 44;45;46 (with **enc**=2)

Group name: 65;66;67;68 (efgh)

```
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&
cat=3[&enc=2]&text=44;45;46;3b;65;66;67;68
```

To Add a group name with a member and phone number:

Configured trigger: 44;45;46 (with **enc**=2)

Group name: 65;66;67;68 (efgh)

Name: 61;62;63;64 (abcd)

Phone number: 39;38;38;36;30;39;38;38;36;30 (9886098860)

```
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&
cat=3[&enc=2]&text=44;45;46;3b;65;66;67;68;3b;61;62;63;64;3b;39;38;38;36;30;3
9;38;38;36;30
```

To Add a group name with a member (should exist in Address book):

Configured trigger: 44;45;46(with enc=2)

Group name: 65;66;67;68 (efgh)

Name: 61;62;63;64 (abcd)

```
http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&
cat=3[&enc=2]&text=44;45;46;3b;65;66;67;68;3b;61;62;63;64
```

To delete an entry in the Address Book:

Configured trigger: 47;48;49(with enc=2)

Name: 61;62;63;64 (abcd)

Phone number: 39;38;38;36;30;39;38;38;36;30 (9886098860)

With Name and Number:

http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=3[&enc=2]&text=47;48;49;3a;61;62;63;64;3a;39;38;38;36;30;39;38;38;36;30

With Name only:

http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=3[&enc=2]&text=47;48;49;3a;61;62;63;64

With Number only:

http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=3[&enc=2]&text=47;48;49;3a;3a;39;38;38;36;30;39;38;38;36;30

To Delete a Group:

Configured trigger: 4a;4b;4c (with **enc**=2)

Group name: 65;66;67;68 (efgh)

http://192.168.2.1[:portnumber]/sendmsg?user=user1&passwd=user1&cat=3[&enc=2]&text=4a;4b;4c;3a;65;66;67;68

The parameters are:

Parameter	Description
cat	3
enc	Encoding type to send SMS(Optional field) **Range:** 0 to 3 0 - SMS text is in ASCII form 1 - SMS text is in Extended ASCII form 2 - SMS text is in hexadecimal form. Each hexadecimal value length is maximum 4, and each hexadecimal value is separated by a semi-colon. Example: 0645;41;646. 3 - SMS text is in decimal form. Each decimal Value length is maximum 5, and each decimal value is separated by a semi-colon. Example: 1605;65;65300. **Note:** Maximum decimal value allowed is 65535. If **enc** is not specified in the send API request, default enc is the configured settings in SMS settings page. enc=2, if Unicode is enabled. enc=1, if Extended ASCII is enabled. enc=0, if both Extended ASCII and Unicode are disabled.
modem	Modem index to send SMS **Range :** 1 to 4 for SF400 1 to 8 for SF800 0 for any modem

	Specifying modem for a **cat**=3 job is not applicable. Action trigger is executed even if modem is specified.
text	The trigger message text to be sent. Enable *Extended ASCII* in the MultiModem iSMS to send both ASCII and extended ASCII chars. By default, *Extended ASCII* is disabled, and the message can have only ASCII characters. If Unicode is enabled (if enc is not specified in request), ensure SMS text is only in hexadecimal form. If *Extended ASCII* is disabled, a maximum of 160 characters can be sent. If *Extended ASCII* is enabled, a maximum of 140 characters can be sent. If Unicode is enabled, a maximum of 70 characters can be sent. The API can be used to send an action trigger to the MultiModem iSMS. If the MultiModem iSMS has a configured action trigger, it performs the configured action.

Sending to Multiple Numbers, Address Book Recipients or Groups

An SMS can be sent to multiple numbers, address book names and groups using a single API.

HTTP API format is:

http://192.168.2.1[:portnumber]/sendmsg?user=xxx&passwd=xxx&cat=1[&enc=0][&priority=1][&modem=8]&to=”xxx1”,”xxx2”,”xxx3”&ton=”name1”,”name2”&group=”admin”,”rd”,”market”&text=message

xxx1, *xxx2* and *xxx3* are mobile numbers.

name1 and *name2* are names in the Address Book.

admin, *rd* and *market* are groups present in the MultiModem iSMS.

Note: Enclose the **to**, **ton** and **group** parameters in quotes.

Response from the MultiModem iSMS after Submitting the Send SMS API

The MultiModem iSMS returns a unique identifier, that is, an API message ID for each "Send API request".

This ID can be used to track and monitor any given message.

```
ID: apimsgid
```

-or-

```
Err: error code
e.g.,
ID: 1
Err: 601
```

HTTP Query API Format

Processing the "Send API" and sending the message takes some time. So, only an **apimsgid** is returned as a response to the "Send SMS API". Query API can be used to query the status of a Send. It returns the status of a message submitted earlier.

HTTP API format is:

```
http://192.168.2.1[:portnumber]/querymsg?user=xxx&passwd=xxx&apimsgid
=id
```

Response values:

```
ID: apimsgid Status: status code
```

OR

```
ID: apimsgid Err: error code
```

OR

```
Err: error code
e.g.,
ID: 1 Status: Done
ID: 1 Err: 604
Err: 602
```

Note: The maximum supported size of the URL is 2048 bytes.

Status Codes

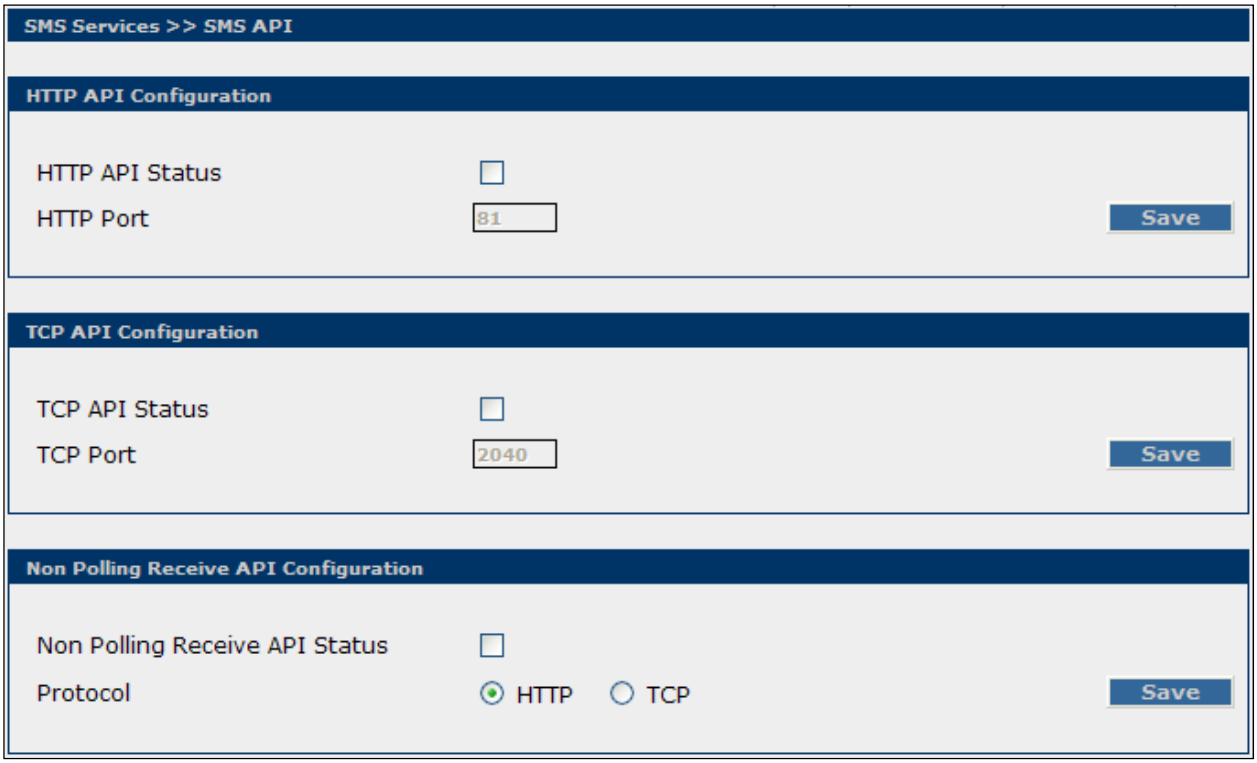
Status Code	Status Description	Description
0	Done	The MultiModem iSMS has completed servicing the "Send" job. The message has been successfully sent to the cellular network for delivery to all intended recipients.
1	Done with error	The MultiModem iSMS has completed servicing the "Send" job, but the message is not sent to all the recipients
2	In progress	The MultiModem iSMS is processing the "Send" API.
3	Request Received	The MultiModem iSMS has received the "Send" request.
4	Error	Error occurred while sending the SMS from the MultiModem iSMS.
5	Message ID Not Found	An API Message ID does not exist.
6	Distributed to Slave1 [10.10.10.101]	The Master MultiModem iSMS has distributed the Job to a given slave.
7	Distribution resulted in error	Master tried to send the job to the slaves and could not send the job to any of the slaves as the slaves are not available (loaded full or network unreachable)
8	Distributed among many Slaves	The Master MultiModem iSMS has distributed the Job Request among many slaves.
9	API is canceled	Reflects that API job is dropped if the Send API job is canceled from the web interface

Error Codes

Error Code	Error Description	Response to
601	Authentication failed	Send API, Query API
602	Parse error	Send API, Query API
603	Invalid category	Send API
604	SMS message size is greater than 160 chars	Send API
605	Recipient overflow	Send API
606	Invalid recipient	Query API
607	No recipient	Send API
608	MultiModem iSMS is busy, can't accept this request	Send API, Query API
609	Timeout waiting for a TCP API request	Send API
610	Unknown action trigger	Send API
611	Error in broadcast trigger	Send API
612	System error – memory allocation failure	Send API, Query API
613	Invalid modem index In SF 400, if modem index given is not within 0 to 4 In SF 800, if modem index given is not within 0 to 8	Send API
614	Invalid device model number (model number is not detected properly to validate the modem index)	Send API
615	Invalid encoding type	Send API
616	Invalid time/date input	Receive API
617	Invalid count input	Receive API
618	Service not available (non-polling receive API is enabled so polling receive API service is not available)	Receive API
619	Invalid addressee	Receive API
620	Invalid priority value	Send API
621	Invalid SMS text This error code is given if the following is not true: If **enc = 2**, SMS text must be in hexadecimal form. Each hexadecimal value length is a maximum of 4 digits and semi-colon is used as a delimiter between two hexadecimal values. If **enc = 3**, SMS text must be in decimal form. Each decimal value length is maximum 5 digits and semi-colon is used as delimiter between two decimal values. Note: Decimal values allowed up to 65535 only.	Send API

TCP API

Configuration of the "TCP Send API" Using the MultiModem iSMS Web Admin Interface



TCP Send API Status:

Enable “TCP Send API Status” to send SMS / query status using TCP API. By default, TCP Send API is disabled.

TCP Port:

Configure the port to service the TCP Send API. Default is 2040.

Note: MultiModem iSMS can be accessed ONLY from the preconfigured allowed networks.

Example: To access the MultiModem iSMS 204.26.122.125 from 125.63.78.44, you *must* add the network 125.63.78.0 to the following MultiModem iSMS window: Admin Access >> Allowed Networks

- Initiate a raw TCP connection to the MultiModem iSMS IP address over the "TCP Send API" port.
- Issue send command to send SMS.
- Issue query command to query the status of send SMS.

TCP Send API Format

```
/sendmsg?user=admin&passwd=admin&cat=1&enc=0&priority=1&modem=1&to="+9198448956
91"&ton=”Bob”&group=”eng”&text=Here is the test message
```

Notes:
“enc” and “priority” parameters are optional.

Parameter	Description
enc	Encoding type to send SMS(Optional field) **Range:** 0 to 3 0 - SMS text in ASCII form 1 - SMS text in Extended ASCII form 2 - SMS text in hexadecimal form. Each hexadecimal value length is maximum 4, and each hexadecimal

	value is separated by a semi-colon. Example: 0645;41;646) 3 - SMS text is in decimal form. Each decimal Value length is maximum 5, and each decimal value is separated by a semi-colon. Example: 1605;65;65300). **Note:** Maximum decimal value allowed is 65535. If **enc** is not specified in the send API request, default enc is the configured settings in SMS settings page. **enc**=2, if Unicode is enabled. **enc**=1, if Extended ASCII is enabled. **enc**=0, if both Extended ASCII and Unicode are disabled.
priority	Priority to send SMS (optional field) **Range:** 1 to 3 1 - Low Priority 2 - Normal Priority 3 - High Priority If priority is not specified in the request, default priority is set to normal.
modem	modem parameter is optional. Modem index to send SMS **Range :** 1 to 4 for SF400 1 to 8 for SF800 0 for any modem (Send API job is distributed through all the available modems) If modem is not specified in the request, send API job is distributed through all the available modems

TCP Query API Format

```
/querymsg?user=admin&passwd=admin&apimsgid=id
```

Notes:

- The TCP buffer needs to contain only this data in the given format to be parsed properly by the TCP Server in the MultiModem iSMS to send SMS / query status.
- SMS could be sent to different multiple recipients like name, number, group using the same format. Enumeration and examples given in HTTP Send API section apply.
- Response to TCP Send API, response to TCP Query API, Status Codes and Error Codes are the same as given for HTTP Send API.

Sending a Job to a Slave MultiModem iSMS From Master MultiModem iSMS

You can use the TCP API to distribute the Job Load from Master MultiModem iSMS unit to a slave unit when load balancing is enabled in the master and with the slaves properly configured.

TCP API format is:

```
/sendmsg?user=admin&passwd=admin&cat=4&enc=0&priority=2&to="+919844895691",”+16
675674532”&text=Here is the test message
```

The parameters are:

Parameter	Description
cat	4
enc	Encoding type of the SMS(Range 0 to 3) 0 - SMS text is in ASCII form 1 - SMS text is in Extended ASCII form 2 - SMS text is in hexadecimal form (*i.e.* each hexadecimal value is of 4 digits and each hexadecimal value is separated by a semi-colon. Example: 0645;0041;0646). 3 - SMS text is in hexadecimal form. However, enc type is given as 3 to indicate to the slave to display in decimal form as in the input send SMS job.
priority	Priority of the SMS Job(Range 1 to 3) 1 - Low Priority 2 - Normal Priority 3 - High Priority It indicates to the slave the priority of the job and to be handled accordingly.
to	The mobile numbers where the SMS is to be delivered. This number must be given in double quotes. The maximum size of each recipient’s number is 50 bytes
text	The message text to be sent. If **enc** is 0, SMS text is in *ASCII*. If **enc** is 1, SMS text is in *Extended ASCII*. If **enc** is 2 / 3 / 4, SMS text is in hexadecimal form. Each hexadecimal value is of 4 digits and each hexadecimal value is separated by a semi-colon. Example: 0645;0041;0646) Spanned SMS is sent as in the input Send SMS job.

Note: An API request from master to slave contains only recipient’s numbers. Recipient names and groups are not supported to make it independent of the Address Book in the slave.

Response from the Slave MultiModem iSMS After Receiving the Send SMS API from Master MultiModem iSMS

The Slave MultiModem iSMS returns a unique identifier *i.e.*, an API message ID for each "Send API request” and Load Indicator, which tells the Job load on the slave.

This Load indicator is used to decide the least loaded slave while distributing to many slaves.

```
ID: apimsgid Load indicator
```

-or-

```
Err: error code Load indicator
```

e.g.,

```
ID: 1 1
Err 608 1000
```

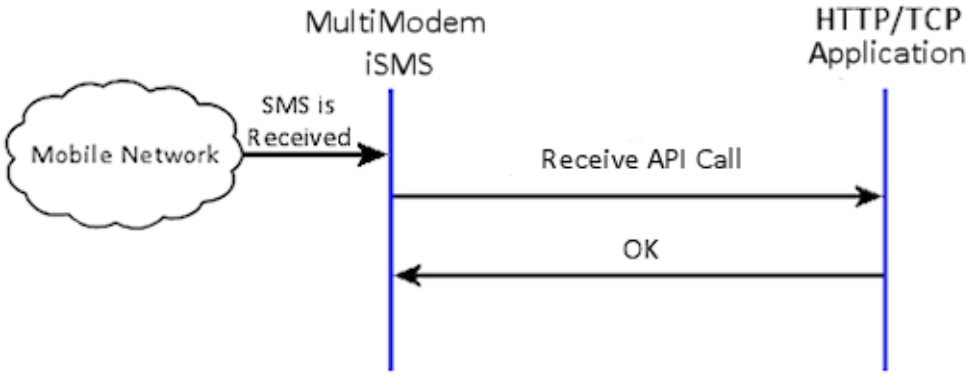
Receive SMS API

The Receive API feature is implemented in two modes:

1. Non-Polling Mode
2. Polling Mode

Note: By Default, Polling mode is configured.

Non Polling Mode Receive SMS API

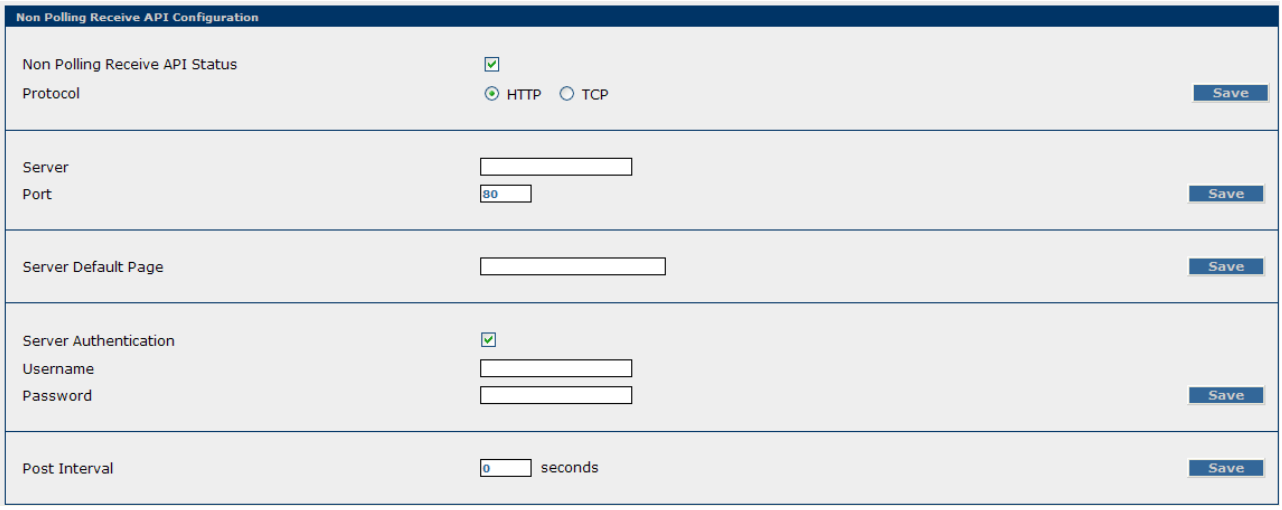


Process:

- Upon receipt of an SMS message and based on the configuration, the MultiModem iSMS sends the SMS to the HTTP or TCP server.
- If the post interval is zero seconds, the MultiModem iSMS uploads the message immediately upon receipt of it. If the post interval is non-zero, it waits for the configured post interval, queues up the messages, and then uploads the messages accumulated for the configured post interval.
- The MultiModem iSMS waits for an OK response from the server after sending the SMS to the application through HTTP or TCP. The response timeout at the MultiModem iSMS is 30 seconds.

HTTP Receive API – Non-Polling Mode

Configuration of the "Non-Polling Mode HTTP Receive API" Using the MultiModem iSMS Web Admin Interface



POST Packet Format with Authentication

POST /cgi-bin/postquery.cgi HTTP/1.1

HOST: 192.168.2.2:80

User-Agent: MultiModem iSMS/1.40

Accept: text/xml, application/xml,

application/xhtml+xml,text/html;q=0.9,text/plain;q=0.8,

application/msword, application/vnd.ms-powerpoint, image/png, */*

Accept-Language: en-us; en;q=0.50

Accept-Encoding: gzip, deflate

Accept-Charset: ISO-8859-1, utf-8;q=0.7, *;q=0.7

Keep-Alive: 300

Connection: keep-alive

Content-Type: application/x-www-form-urlencoded

Content-Length: 395

username=SMSFINDER&password=SMSFINDER&XMLDATA=%3C%3Fxml%20version%3D%221.0%22%20

encoding%3D%22ISO-8859-1%22%3F%3E%0D%0A%3CResponse%3E%0D%A0%3CMessageNotification%3E%0D%0A%3CModemNumber%3E%2B2%3A19525945092%3C%2FModemNumber%3E%0D%0A%3CSenderNumber%3E%2B919844895692%3C%2FSenderNumber%3E%0D%0A%3CDate%3E08%2F03%2F14%3C%2FDate%3E%0D%0A%3CTime%3E12%3A53%3A09%3C%2FTime%3E%0D%0A%3CMessage%3ETest%0D%0A%0D%3C%2FMessage%3E%0D%0A%3C%2FMessageNotification%3E%0D%0A%A0%3C%2FResponse%3E%0D%0A

POST Packet Format without Authentication

POST /ismsResponse_1.4x.rb HTTP/1.1
HOST: 172.17.20.1:80
User-Agent: MultiModem iSMS/1.41
Accept: text/xml, application/xml, application/xhtml+xml,text/html;q=0.9,text/plain;q=0.8,image/png, */*
Accept-Language: en-us; en;q=0.50
Accept-Encoding: gzip, deflate
Accept-Charset: ISO-8859-1, utf-8;q=0.7, *;q=0.7
Keep-Alive: 300
Connection: keep-alive
Content-Type: application/x-www-form-urlencoded
Content-Length: 439

XMLDATA=%3C%3Fxml%20version%3D%221.0%22%20encoding%3D%22ISO-8859-1%22%3F%3E%0D%0A%3CResponse%3E%0D%0A%3CMessageNotification%3E%0D%0A%3CModemNumber%3E1%3A7632346274%3C%2FModemNumber%3E%0D%0A%3CSenderNumber%3E%2B16512706431%3C%2FSenderNumber%3E%0D%0A%3CDate%3E10%2F08%2F24%3C%2FDate%3E%0D%0A%3CTime%3E14%3A15%3A52%3C%2FTime%3E%0D%0A%3CMessage%3ETest%20Message.%3C%2FMessage%3E%0D%0A%3C%2FMessageNotification%3E%0D%0A%3C%2FResponse%3E%0D%0A

Note:

If authentication is disabled, POST DATA contains XMLDATA=[urlencoded(XML)]

If authentication is enabled, POST DATA contains username=user&passwd=user& XMLDATA=[urlencoded(XML)]

Posting of 1 message

```
<?xml version="1.0" encoding="ISO-8859-1"?>\r\n
<Response>\r\n
<MessageNotification>\r\n
<ModemNumber>2:19525945092</ModemNumber>\r\n
<SenderNumber>6754535645</SenderNumber>\r\n
<Date>08/03/10</Date>\r\n
<Time>09:05:30</Time>\r\n
<Message>Here is a test message</Message>\r\n
</MessageNotification>\r\n
</Response>\r\n
```

Posting of 2 messages

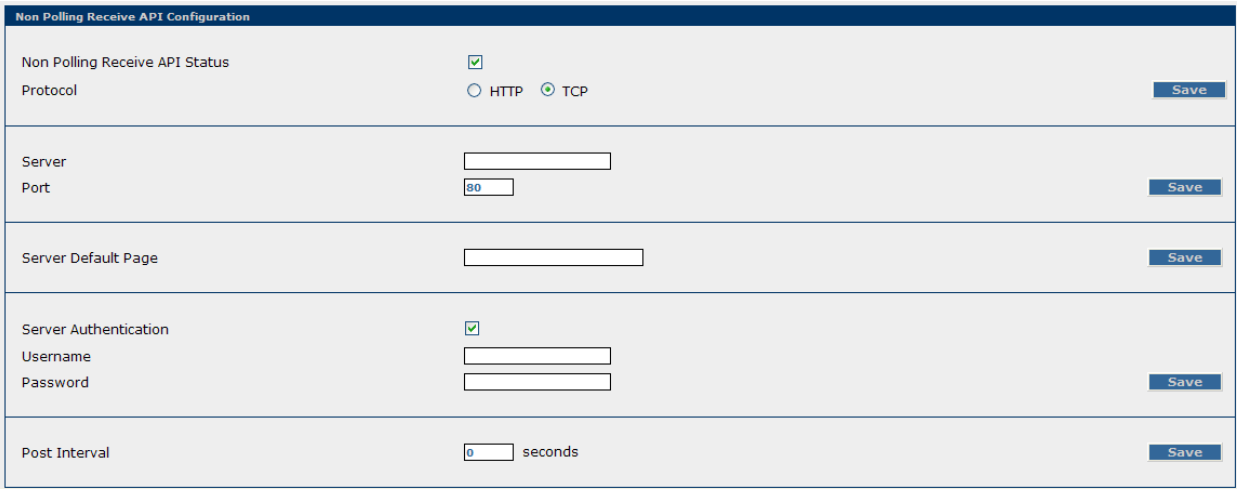
```
<?xml version="1.0" encoding="ISO-8859-1"?>\r\n
<Response>\r\n
<MessageNotification>\r\n
<ModemNumber>2:19525945092</ModemNumber>\r\n
<SenderNumber>8767654534</SenderNumber>\r\n
<Date>08/03/07</Date>\r\n
<Time>08:07:20</Time>\r\n
<Message>Test message 1</Message>\r\n
</MessageNotification>\r\n
<MessageNotification>\r\n
<ModemNumber>3:</ModemNumber>\r\n
<SenderNumber>9876754534</SenderNumber>\r\n
<Date>08/03/13</Date>\r\n
<Time>10:10:36</Time>\r\n
<Message>Test message 2</Message>\r\n
</MessageNotification>\r\n
</Response>\r\n
```

Notes:

- The MultiModem iSMS accommodates a maximum of two messages in one POST message.
- The MultiModem iSMS waits for an OK response from the HTTP server; it times out in 30 seconds.
- If receiving modem's SIM number is configured then <ModemNumber> field has modem index:SIM number. If receiving modem's SIM number is not configured then <ModemNumber> field has modem index:

TCP Receive API – Non-Polling Mode

Configuration of the "Non Polling mode TCP Receive API" Using the MultiModem iSMS Web Admin Interface



TCP Receive API Request without Authentication

From: MultiModem iSMS/1.40

Authentication: OFF

Data-Length: 123

1:19525945092

+17635280856

08/10/15

07:29:32

26632HTTP Message text.

TCP Receive API Request with Authentication

From: MultiModem iSMS/1.40

Authentication: OFF

Data-Length: 123

smsuser1

smsuser1

1:19525945092

+17635280856

08/10/15

07:29:32

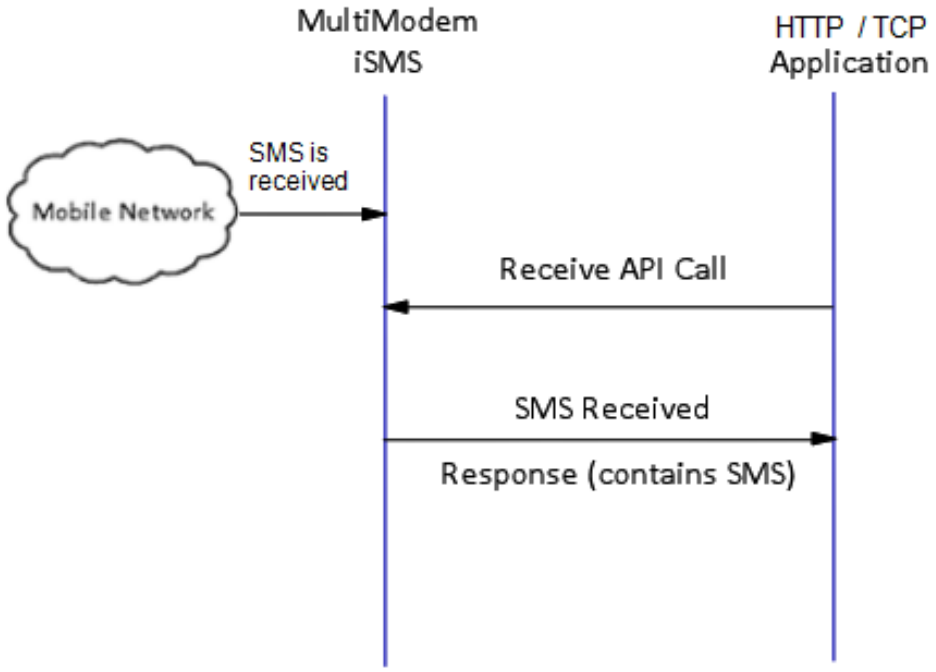
26632HTTP Message text.

Above payload comprised of:

- Username, Password if authentication is enabled and configured.
- Receiving modem number details: If receiving modem's SIM number is configured then <ModemNumber> field has modem index:SIM number. If receiving modem's SIM number is not configured then <ModemNumber> field has modem index:
- Sender's number
- Date
- Time
- SMS Message

The MultiModem iSMS waits for an OK response from the TCP application. It times out in 30 seconds.

Polling Mode Receive SMS API



Process:

- Upon the receipt of request from TCP/HTTP application, the MultiModem iSMS responds with the SMS received based on the filter condition in the request and availability.

Notes:

- Enabling the Non-Polling Mode Receive API disables the Receive API in Polling Mode.
- Disabling the Non-Polling Mode Receive API enables the Receive API in Polling Mode provided the API Ports are configured.
- HTTP and TCP Clients can use the configured HTTP and TCP API ports respectively for Receive API Polling mode request.

Receive API – Polling Mode

Receive API polling mode has two commands. The ***querycount?*** command and the ***recvmsg?*** command.

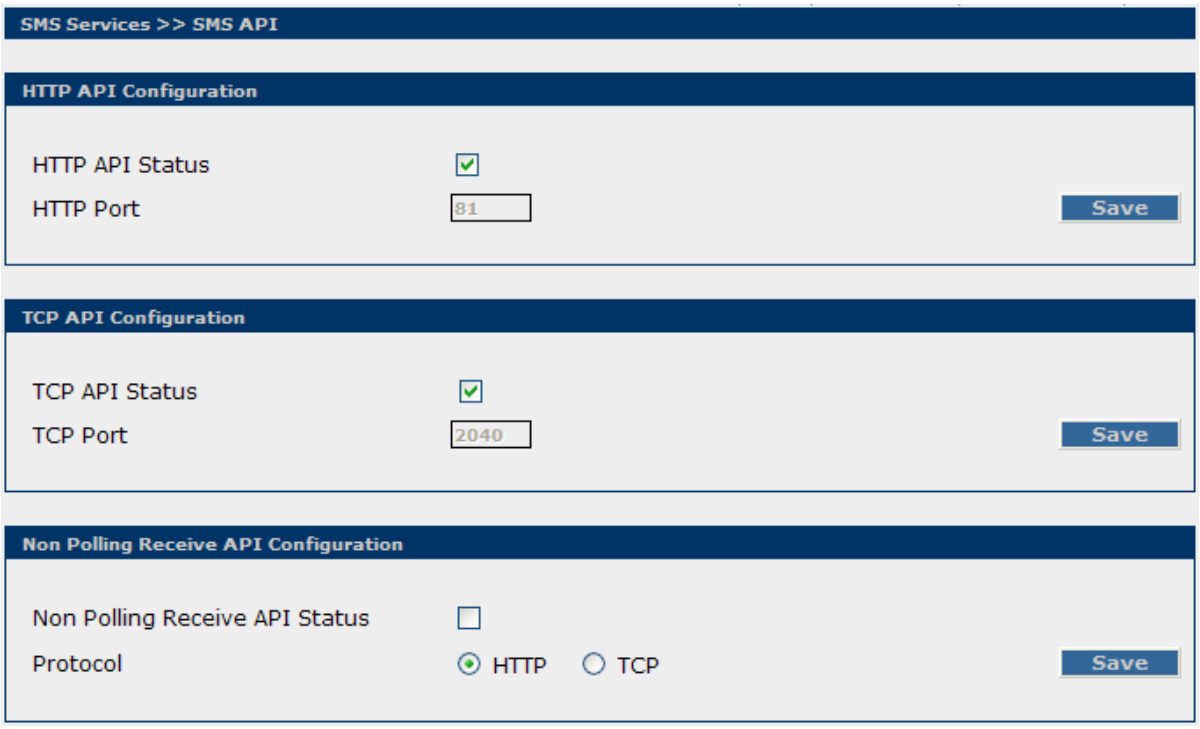
querycount?

The query count command is used to determine the number of unread SMS messages in the MultiModem iSMS receive queue.

recvmsg?

The receive message command is used to retrieve the unread SMS messages from the receive queue.

Once a message is retrieved (read), it cannot be read again. A record of the SMS is kept in the SMS Services Inbox.



Receive API Polling Mode Query Format

The format of the command can be as an *HTTP/1.1 Get* or in a product-specific, raw TCP protocol as shown below.

```
/<command?><usercredentials><options><end-of-line>
```

```
GET /recvmsg?user=admin&passwd=admin[&count=][&from][&fdate=][&tdate=][&ftime=][&ttime=][&text=]
```

Query options are only used with the ***recvmsg?*** Command:

- All options given within [] indicate that they are optional
- *count* – number of messages to be displayed
  - If filter is not given, it gives count of ALL unread messages
- *from* – SMS from this mobile number
- *fdate*, *tdate* – SMS received during this date period (*from* **f**date; *to* **t**date)
  - date format: yy/mm/dd
- *ftime*, *ttime* – SMS received during this time period (*from* **f**time; *to* **t**time)
  - time format: hh:mm:ss
- *text* – SMS received matching this text completely

HTTP Query Request using browser:

```
http://192.168.2.1:81/querycount?user=admin&passwd=admin
```

TCP Query Request:

```
/querycount?user=admin&passwd=admin
```

Successful responses for the query count are in the following format:

```
Count: Value
```

'Value' gives the number of unread messages.

Error responses for the above commands are in the following format:

```
Err: error code
```

Error Codes

Error Code	Error Description	Response to
601	Authentication Failed	Send API, Query API, Receive API
602	Parse Error	Send API, Query API, Receive API
604	Filtering with SMS Text whose message size is greater than 280 chars (70 * 4 for Unicode is the maximum possible size of the SMS received by the MultiModem iSMS wireless modem)	Receive API
605	Recipient Overflow	Send API, Receive API
608	Server Busy	Send API, Receive API
616	Invalid Time/Date Input	Receive API
617	Invalid Count Input	Receive API
618	Service Not Available	Receive API
619	Invalid Addressee	Receive API

Query for number of unread messages (*querycount?*)

Examples:

HTTP:

```
Get /querycount?user=admin&passwd=adminHTTP/1.1\r\n
```

HTTP Query Request using browser:

```
http://192.168.2.1:81/querycount?user=admin&passwd=admin
```

TCP:

```
/querycount?user=admin&passwd=admin\r\n
```

TCP Query Request:

```
/querycount?user=admin&passwd=admin
```

Query to receive unread messages (*recvmsg?*)

Examples:

HTTP:

`Get /recvmsg?user=admin&passwd=admin`[*&options* of your choice defining up to how many you want to receive at one time and received during what specific period]`HTTP/1.1\r\n`

HTTP request using the browser to read 10 unread messages for a specific set of dates:

```
http://192.168.2.1:81/recvmsg?user=admin&passwd=admin&count=10&fdate=09/08/22&tdate
=09/08/24
```

TCP:

`/recvmsg?user=admin&passwd=admin`[*&options* of your choice defining up to how many you want to receive at one time and received during what specific period]`\r\n`

TCP request to read 10 unread messages for a specific set of dates:

```
/recvmsg?user=admin&passwd=admin&count=10&fdate=09/08/22&tdate=09/08/24
```

Command responses

Querycount?

Successful responses to the *querycount?* command is in the following format:

HTTP:

```
HTTP/1.1 200 OK
Content-type: text/html
Count:value
```

TCP:

```
Count:value
```

'Value' gives the number of unread messages.

Command responses (continued)

Recvmsg?

Successful responses to the *recvmsg?* command are in the following format:

Packet_end_flag

Unread_available

Msg_Count

Msg_index_1

Number

Date

Time

Encode type

Message

Msg_index_2

Number

Date

Time

Encode type

Message

Msg_index_N

Number

Notes:

- Packet_end_flag: 0 – More packets to continue; 1 – End of the packets.
- Unread_available: 1 – Unread Messages available; 0 – No Unread Messages available for the request.
- Msg_Count – Total number of messages sent in a packet.
- N – Maximum number of messages per packet.
- If the time is not specified in the query, default range of 24 hrs from 00:00:00 to 23:59:00 is considered.
- If the date is not specified in the query, all unread messages are retrieved, using the time filter.
- Encode type can be ASCII or Extended ASCII or Unicode
- If requested number of messages is not found, the available unread messages are provided.

Error responses for the read queries are in the following format:

Err: error code [***See Error Code tables in this chapter***]

HTTP

HTTP Receive API Response to r*ecvmsg?* command:

<?xml version="1.0" encoding="ISO-8859-1" ?>

<Response>

<Response_End>**1**</Response_End>

<Unread_Available>**1**</Unread_Available>

<Msg_Count>**03**</Msg_Count>

<MessageNotification>

<Message_Index>**1**</Message_Index>

<SenderNumber>**+919742204905**</SenderNumber>

<Date>**09/07/24**</Date>

<Time>**11:24:34**</Time>

<EncodingFlag>**Unicode**</EncodingFlag>

<Message>**00280031006F00660033002900410006C006C00200074006800650020006C006F0067007300200730068006F0075006C00640020006200650020006400690073007000 6C006100790065006400200070007 2006F007000650072006C007900200069006E00200074006**</Message>

</MessageNotification>

<MessageNotification>

<Message_Index>**2**</Message_Index>

<SenderNumber>**+919742204905**</SenderNumber>

<Date>**09/07/24**</Date>

<Time>**11:38:08**</Time>

<EncodingFlag>**ASCII**</EncodingFlag>

<Message>**Multimodem%20iSMS%20Easy%20way%20to%20send%20bulk%20SMS%20Go%20to%20MultiTech%20site%20for%20more%20detail**s</Message>

</MessageNotification>

<MessageNotification>

<Message_Index>**3**</Message_Index>

<SenderNumber>**+919742204905**</SenderNumber>

<Date>**09/07/24**</Date>

<Time>**11:38:35**</Time>

<EncodingFlag>**Extended ASCII**</EncodingFlag>

<Message>**Multimodem%20iSMS%20supports%20Unicode%20ASCII%20and%20Extended%20ASCII%20Go%20to%20MultiTech%20site%20for%20more%20details**</Message>

</MessageNotification>

</Response>

TCP

TCP Receive API Response to *recvmsg?* command:

```
From: MultiModem iSMS/1.40

1

1

3

Msg_index_1

+919742204905

09/07/24

11:56:52

Unicode

0B880B870B890B900B920B930B930B930B930B940B930B930B940BB80BCA0BCB0BB90B9E0B9E0BA30BAF0B
AE0BAA0BA90BA40BAF0BB20BB50BB70BB80BB80BB90BB9

Msg_index_2

+919742204905

09/07/24

11:40:48

ASCII

MultiModem iSMS easy way to send bulk SMS. Go to MultiTech site for more details

Msg_index_3

+919742204905

09/07/24

11:57:29

Extended ASCII

MultiModem iSMS supports Unicode ASCII and Extended ASCII Go to MultiTech site for
more details
```

Error responses for the above commands are in the following format:

HTTP

```
HTTP/1.1 200 OK

Content-type: text/html
Err:value
```

TCP:

```
Err: value
```

Error Codes

Error Code	Error Description	Response to
601	Authentication Failed	Send API, Query API, Receive API
602	Parse Error	Send API, Query API, Receive API
604	Filtering with SMS Text whose message size is greater than 280 chars (70 * 4 for Unicode is the maximum possible size of the SMS received by the MultiModem iSMS wireless modem)	Receive API
605	Recipient Overflow	Send API, Receive API
608	Server Busy	Send API, Receive API
616	Invalid Time/Date Input	Receive API
617	Invalid Count Input	Receive API
618	Service Not Available	Receive API
619	Invalid Addressee	Receive API

Appendix B – Table of Commonly Supported Subnet Addresses

This appendix lists commonly supported subnets organized by address.

	Network Number	Hosts Available	Broadcast Address
255.255.255.128	N.N.N.0	N.N.N.1-126	N.N.N.127
/25	N.N.N.128	N.N.N.129-254	N.N.N.255

	Network Number	Hosts Available	Broadcast Address
255.255.255.192	N.N.N.0	N.N.N.1-62	N.N.N.63
/26	N.N.N.64	N.N.N.65-126	N.N.N.127
	N.N.N.128	N.N.N.129-190	N.N.N.191
	N.N.N.192	N.N.N.193-254	N.N.N.255

	Network Number	Hosts Available	Broadcast Address
255.255.255.224	N.N.N.0	N.N.N.1-30	N.N.N.31
/27	N.N.N.32	N.N.N.33-62	N.N.N.63
	N.N.N.64	N.N.N.65-94	N.N.N.95
	N.N.N.96	N.N.N.97-126	N.N.N.127
	N.N.N.128	N.N.N.129-158	N.N.N.159
	N.N.N.160	N.N.N.161-190	N.N.N.191
	N.N.N.192	N.N.N.193-222	N.N.N.223
	N.N.N.224	N.N.N.225-254	N.N.N.255

	Network Number	Hosts Available	Broadcast Address
255.255.255.240	N.N.N.0	N.N.N.1-14	N.N.N.15
/28	N.N.N.16	N.N.N.17-30	N.N.N.31
	N.N.N.32	N.N.N.33-46	N.N.N.47
	N.N.N.48	N.N.N.49-62	N.N.N.63
	N.N.N.64	N.N.N.65-78	N.N.N.79
	N.N.N.80	N.N.N.81-94	N.N.N.95
	N.N.N.96	N.N.N.97-110	N.N.N.111
	N.N.N.112	N.N.N.113-126	N.N.N.127
	N.N.N.128	N.N.N.129-142	N.N.N.143
	N.N.N.144	N.N.N.145-158	N.N.N.159
	N.N.N.160	N.N.N.161-174	N.N.N.175
	N.N.N.176	N.N.N.177-190	N.N.N.191
	N.N.N.192	N.N.N.193-206	N.N.N.207
	N.N.N.208	N.N.N.209-222	N.N.N.223
	N.N.N.224	N.N.N.225-238	N.N.N.239

	N.N.N.240	N.N.N.241-254	N.N.N.255

	Network Number	Hosts Available	Broadcast Address
255.255.255.248	N.N.N.0	N.N.N.1-6	N.N.N.7
/29	N.N.N.8	N.N.N.9-14	N.N.N.15
	N.N.N.16	N.N.N.17-22	N.N.N.23
	N.N.N.24	N.N.N.25-30	N.N.N.31
	N.N.N.32	N.N.N.33-38	N.N.N.39
	N.N.N.40	N.N.N.41-46	N.N.N.47
	N.N.N.48	N.N.N.49-54	N.N.N.55
	N.N.N.56	N.N.N.57-62	N.N.N.63
	N.N.N.64	N.N.N.65-70	N.N.N.71
	N.N.N.72	N.N.N.73-78	N.N.N.79
	N.N.N.80	N.N.N.81-86	N.N.N.87
	N.N.N.88	N.N.N.89-94	N.N.N.95
	N.N.N.96	N.N.N.97-102	N.N.N.103
	N.N.N.104	N.N.N.105-110	N.N.N.111
	N.N.N.112	N.N.N.113-118	N.N.N.119
	N.N.N.120	N.N.N.121-126	N.N.N.127
	N.N.N.128	N.N.N.129-134	N.N.N.135
	N.N.N.136	N.N.N.137-142	N.N.N.143
	N.N.N.144	N.N.N.145-150	N.N.N.151
	N.N.N.152	N.N.N.153-158	N.N.N.159
	N.N.N.160	N.N.N.161-166	N.N.N.167
	N.N.N.168	N.N.N.169-174	N.N.N.175
	N.N.N.176	N.N.N.177-182	N.N.N.183
	N.N.N.184	N.N.N.185-190	N.N.N.191
	N.N.N.192	N.N.N.193-198	N.N.N.199
	N.N.N.200	N.N.N.201-206	N.N.N.207
	N.N.N.208	N.N.N.209-214	N.N.N.215
	N.N.N.216	N.N.N.217-222	N.N.N.223
	N.N.N.224	N.N.N.225-230	N.N.N.231
	N.N.N.232	N.N.N.233-238	N.N.N.239
	N.N.N.240	N.N.N.241-246	N.N.N.247
	N.N.N.248	N.N.N.249-254	N.N.N.255

	Network Number	Hosts Available	Broadcast Address
255.255.255.252	N.N.N.0	N.N.N.1-2	N.N.N.3
/30	N.N.N.4	N.N.N.5-6	N.N.N.7
	N.N.N.8	N.N.N.9-10	N.N.N.11
	N.N.N.12	N.N.N.13-14	N.N.N.15
	N.N.N.16	N.N.N.17-18	N.N.N.19
	N.N.N.20	N.N.N.21-22	N.N.N.23
	N.N.N.24	N.N.N.25-26	N.N.N.27
	N.N.N.28	N.N.N.29-30	N.N.N.31

N.N.N.32	N.N.N.33-34	N.N.N.35
N.N.N.36	N.N.N.37-38	N.N.N.39
N.N.N.40	N.N.N.41-42	N.N.N.43
N.N.N.44	N.N.N.45-46	N.N.N.47
N.N.N.48	N.N.N.49-50	N.N.N.51
N.N.N.52	N.N.N.53-54	N.N.N.55
N.N.N.56	N.N.N.57-58	N.N.N.59
N.N.N.60	N.N.N.61-62	N.N.N.63
N.N.N.64	N.N.N.65-66	N.N.N.67
N.N.N.68	N.N.N.69-70	N.N.N.71
N.N.N.72	N.N.N.73-74	N.N.N.75
N.N.N.76	N.N.N.77-78	N.N.N.79
N.N.N.80	N.N.N.81-82	N.N.N.83
N.N.N.84	N.N.N.85-86	N.N.N.87
N.N.N.88	N.N.N.89-90	N.N.N.91
N.N.N.92	N.N.N.93-94	N.N.N.95
N.N.N.96	N.N.N.97-98	N.N.N.99
N.N.N.100	N.N.N.101-102	N.N.N.103
N.N.N.104	N.N.N.105-106	N.N.N.107
N.N.N.108	N.N.N.109-110	N.N.N.111
N.N.N.112	N.N.N.113-114	N.N.N.115
N.N.N.116	N.N.N.117-118	N.N.N.119
N.N.N.120	N.N.N.121-122	N.N.N.123
N.N.N.124	N.N.N.125-126	N.N.N.127
N.N.N.128	N.N.N.129-130	N.N.N.131
N.N.N.132	N.N.N.133-134	N.N.N.135
N.N.N.136	N.N.N.137-138	N.N.N.139
N.N.N.140	N.N.N.141-142	N.N.N.143
N.N.N.144	N.N.N.145-146	N.N.N.147
N.N.N.148	N.N.N.149-150	N.N.N.151
N.N.N.152	N.N.N.153-154	N.N.N.155
N.N.N.156	N.N.N.157-158	N.N.N.159
N.N.N.160	N.N.N.161-162	N.N.N.163
N.N.N.164	N.N.N.165-166	N.N.N.167
N.N.N.168	N.N.N.169-170	N.N.N.171
N.N.N.172	N.N.N.173-174	N.N.N.175
N.N.N.176	N.N.N.177-178	N.N.N.179
N.N.N.180	N.N.N.181-182	N.N.N.183
N.N.N.184	N.N.N.185-186	N.N.N.187
N.N.N.188	N.N.N.189-190	N.N.N.191
N.N.N.192	N.N.N.193-194	N.N.N.195
N.N.N.196	N.N.N.197-198	N.N.N.199
N.N.N.200	N.N.N.201-202	N.N.N.203
N.N.N.204	N.N.N.205-206	N.N.N.207

N.N.N.208	N.N.N.209-210	N.N.N.211
N.N.N.212	N.N.N.213-214	N.N.N.215
N.N.N.216	N.N.N.217-218	N.N.N.219
N.N.N.220	N.N.N.221-222	N.N.N.223
N.N.N.224	N.N.N.225-226	N.N.N.227
N.N.N.228	N.N.N.229-230	N.N.N.231
N.N.N.232	N.N.N.233-234	N.N.N.235
N.N.N.236	N.N.N.237-238	N.N.N.239
N.N.N.240	N.N.N.241-242	N.N.N.243
N.N.N.244	N.N.N.245-246	N.N.N.247
N.N.N.248	N.N.N.249-250	N.N.N.251
N.N.N.252	N.N.N.253-254	N.N.N.255

Appendix C – Antennas for the MultiModem iSMS

RF Specifications

	GSM 850	EGSM 900	GSM 1800	GSM 1900
Frequency RX	869 to 894 MHz	925 to 960 MHz	1805 to 1800 MHz	1930 to 1990 MHz
Frequency TX	824 to 849 MHz	880 to 915 MHz	1710 to 1785 MHz	1850 to 1910 MHz
RF Power Stand	2W at 12.5% duty cycle	2W at 12.5% duty cycle	1W at 12.5% duty cycle	1W at 12.5% duty cycle

Antenna Specifications

GSM/EGSM Antenna Requirements/Specifications

Frequency Range:	824 – 960 MHz / 1710 – 1990 MHz
Impedance:	50 Ohms
VSWR:	<2.0:1
Typical Radiated Gain:	3 dBi on azimuth plane
Radiation:	Omni
Polarization:	Vertical
Wave:	Half Wave Dipole

Antennas Available from Multi-Tech Systems, Inc.

Description	Part Number
900/1800 MHz 1/2 Wave Antenna Mag Mount, 12.5", 1 Pack	ANF1-1MMHW
850/1900 MHz 1/2 Wave Antenna Mag Mount, 12.5", 1 Pack	ANF2-1MMHW

PTCRB Requirements Note

There cannot be any alteration to the authorized antenna system. The antenna system must be the same type with similar in-band and out-of-ban radiation patterns and maintain the same specifications.

FCC Requirements Note

The antenna gain, including cable loss, must not exceed 3.0 dBi at 1900 MHz / 1.4 dBi at 850 MHz for mobile operating configurations and 7.0 dBi at 1900 MHz / 1.4 dBi at 850 MHz for fixed mounted operations, as defined in 2.1091 and 1.1307 of the rules for satisfying RF exposure compliance.

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.

Appendix D – Waste Electrical and Electronic Equipment Directive (WEEE)

Waste Electrical and Electronic Equipment (WEEE) Directive

The WEEE directive places an obligation on manufacturers, distributors and retailers to take-back electronic products at the end of their useful life. A sister Directive, ROHS (Restriction of Hazardous Substances), complements the WEEE Directive by banning the presence of specific hazardous substances in the products at the design phase. The WEEE Directive covers all Multi-Tech products being sold into the EU as of August 13, 2005. Manufacturers, distributors and retailers are obliged to finance the costs of recovery from municipal collection points, reuse, and recycling of specified percentages per the WEEE requirements.

Instructions for Disposal of WEEE by Users in the European Union

The symbol shown below is on the product or on its packaging which indicates that this product must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of the user's waste equipment by handing it over to a designated collection point for the recycling of electrical and electronic waste equipment. The separate collection and recycling of waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the seller from whom you purchased the product.

06/27/2005

Appendix E – Time Zone Abbreviations

This list represents a portion of the abbreviations used for different Time Zones. All of those listed here are valid entries for the MultiModem iSMS products.

Code	Name	Region	UTC Variance
ACDT	Australian Central Daylight Time	Australia	+ 10:30 hours
ACST	Australian Central Standard Time	Australia	+ 9:30 hours
AEDT	Australian Eastern Daylight Time or Australian Eastern Summer Time	Australia	+ 11 hours
AEST	Australian Eastern Standard Time	Australia	+ 10 hours
AWDT	Australian Western Daylight Time	Australia	+ 9 hours
AWST	Australian Western Standard Time	Australia	+ 8 hours
CXT	Christmas Island Time	Australia	+ 7 hours
EDT	Eastern Daylight Time	Australia	+ 11 hours
NFT	Norfolk (Island) Time	Australia	+ 11:30 hours
WDT	Western Daylight Time	Australia	+ 9 hours
BST	British Summer Time	Europe	+ 1 hour
CEDT	Central European Daylight Time	Europe	+ 2 hours
CEST	Central European Summer Time	Europe	+ 2 hours
CET	Central European Time	Europe	+ 1 hour
EEDT	Eastern European Daylight Time	Europe	+ 3 hours
EEST	Eastern European Summer Time	Europe	+ 3 hours
EET	Eastern European Time	Europe	+ 2 hours
GMT	Greenwich Mean Time	Europe	
IST	Irish Summer Time	Europe	+ 1 hour
MESZ	Mitteleuroäische Sommerzeit	Europe	+ 2 hours
MEZ	Mitteleuropäische Zeit	Europe	+ 1 hour
MSD	Moscow Daylight Time	Europe	+ 4 hours
MSK	Moscow Standard Time	Europe	+ 3 hours
WEDT	Western European Daylight Time	Europe	+ 1 hour
WEST	Western European Summer Time	Europe	+ 1 hour
ADT	Atlantic Daylight Time	North America	- 3 hours
AKDT	Alaska Daylight Time	North America	- 8 hours
AKST	Alaska Standard Time	North America	- 9 hours
AST	Atlantic Standard Time	North America	- 4 hours
CDT	Central Daylight Time	North America	- 5 hours
CST	Central Standard Time	North America	- 6 hours
EDT	Eastern Daylight Time	North America	- 4 hours
EST	Eastern Standard Time	North America	- 5 hours

HAA	Heure Avancée de l'Atlantique	North America	- 3 hours
HAC	Heure Avancée du Centre	North America	- 5 hours
HADT	Hawaii-Aleutian Daylight Time	North America	- 9 hours
HAE	Heure Avancée de l'Est	North America	- 4 hours
HAP	Heure Avancée du Pacifique	North America	- 7 hours
HAR	Heure Avancée des Rocheuses	North America	- 6 hours
HAST	Hawaii-Aleutian Standard Time	North America	- 10 hours
HAT	Heure Avancée de Terre-Neuve	North America	- 2:30 hours
HAY	Heure Avancée du Yukon	North America	- 8 hours
HNA	Heure Normale de l'Atlantique	North America	- 4 hours
HNC	Heure Normale du Centre	North America	- 6 hours
HNE	Heure Normale de l'Est	North America	- 5 hours
HNP	Heure Normale du Pacifique	North America	- 8 hours
HNR	Heure Normale des Rocheuses	North America	- 7 hours
HNT	Heure Normale de Terre-Neuve	North America	- 3:30 hours
HNY	Heure Normale du Yukon	North America	- 9 hours
MDT	Mountain Daylight Time	North America	- 6 hours
MST	Mountain Standard Time	North America	- 7 hours
NDT	Newfoundland Daylight Time	North America	- 2:30 hours
NST	Newfoundland Standard Time	North America	- 3:30 hours
PDT	Pacific Daylight Time	North America	- 7 hours
PST	Pacific Standard Time	North America	- 8 hours

Appendix F – End User License Agreement (EULA)

Multi-Tech Systems, Inc.

Multi-User Software License Agreement

IMPORTANT - READ BEFORE OPENING OR ACCESSING SOFTWARE

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Appendix G – Regulatory Information

Restriction of the Use of Hazardous Substances (RoHS)

Multi-Tech Systems, Inc.

Certificate of Compliance

2002/95/EC

Multi-Tech Systems, Inc. confirms that this product now complies with the chemical concentration limitations set forth in the directive **2002/95/EC** of the European Parliament (Restriction Of the use of certain Hazardous Substances in electrical and electronic equipment - **RoHS**)

These Multi-Tech Systems, Inc. products do not contain the following banned chemicals:

Lead, [Pb] < 1000 PPM

Mercury, [Hg] < 1000 PPM

Hexavalent Chromium, [Cr+6] < 1000 PPM

Cadmium, [Cd] < 100 PPM

Polybrominated Biphenyl, [PBB] < 1000 PPM

Polybrominated Diphenyl Ether, [PBDE] < 1000 PPM

Note:

1. Lead usage in some components is exempted by the following RoHS annex; therefore, higher lead concentration could be found.
    a. Lead in high melting temperature type solders (i.e., tin-lead solder alloys containing more than 85% lead).
    b. Lead in electronic ceramic parts (e.g., piezoelectronic devices).

Information on HS/TS Substances According to Chinese Standards

依照中国**标准的有毒有害物质信息**

根据中**华人民共和国信息产业部** (MII) 制定的**电子信息产品** (EIP)
标准－中**华人民共和国《电子信息产品污染控制管理办法》**（第 39 号），也称作中国 RoHS，下表列出了 Multi-Tech Systems Inc. **产品中可能含有的有毒物质** (TS) 或有害物**质** (HS) 的名称及含量水平方面的信息。

成分名称	**有害/有毒物▪/元素**					
	铅 (PB)	**汞 (Hg)**	**▪ (CD)**	**六价▪ (CR6+)**	**多▪▪苯 (PBB)**	**多▪二苯▪ (PBDE)**
印刷▪路板	O	O	O	O	O	O
▪阻器	X	O	O	O	O	O
电容器	X	O	O	O	O	O
▪氧体磁▪	O	O	O	O	O	O
▪▪器/光学部件	O	O	O	O	O	O
IC	O	O	O	O	O	O
二极管/晶体管	O	O	O	O	O	O
振▪器和晶振	X	O	O	O	O	O
▪▪器	O	O	O	O	O	O
▪▪▪感器	O	O	O	O	O	O
▪▪器	O	O	O	O	O	O
▪声器	O	O	O	O	O	O
▪接器	O	O	O	O	O	O
LED	O	O	O	O	O	O
螺▪、螺母以及其它五金件	X	O	O	O	O	O
交流-直流▪源	O	O	O	O	O	O
▪件/文档 CD	O	O	O	O	O	O
手册和纸页	O	O	O	O	O	O
底▪	O	O	O	O	O	O

X表示所有使用**类似材料的设备中有害**/有毒物**质的含量水平高于** SJ/Txxx-2006 限量要求。

O 表示不含**该物质或者该物质的含量水平在上述限量要求之内。**

47 CFR Part 15 Regulation

This equipment has been tested and found to comply with the limits for a **Class A** digital device, pursuant to 47 CFR Part 15 regulations. The stated limits in this regulation are designed to provide reasonable protection against harmful interference in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Plug the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the CFR 47 rules. Operation of this device is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference that may cause undesired operation.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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